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TAKING THE GUESSWORK OUT OF BUSINESS

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TAKING THE GUESSWORK OUT OF BUSINESS

BY

WILLIAM R. BASSET

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PREFACE

The biggest thing we have learned about industry in the last twenty-odd years is that the work must flow as continuously as a river flows from its source to the sea. The river of industry and all its tributaries used to be full of dams. Each stage of production and distribution was in separate hands — that is, each dam was individually owned and controlled and each dam owner opened his sluice gates only after he had made a satisfactory bargain with the owner next below him.

John D. Rockefeller was the first man to own more than one stage of production — to own more than one dam. Very quickly he found that it cut out a lot of waste to own all the dams and to keep the sluice gates open all the time. Henry Ford found that it paid to do away with the little dams that used to be inside a business and to keep the work flowing through the factory.

The entirety of industry is not yet mod-

ernized, but we have gone far enough to realize that the ability of an industry or an industrial unit to serve depends first upon the lucidity of its organization and second upon the intelligence of its operation. I define service as a broad thing which includes the making of a good article and selling it cheaply, the paying of high wages and salaries, and the earning of adequate profits.

Service is a great deal more than being on the jump with a repair kit, and organization is a great deal more than assembling titles and men. Organization has to do with the easy working together of finance, production, and distribution as parts of a single machine.

Business is broadening into a profession and that process has given rise to the necessity for a new profession. The engineering professions are concerned with parts, not with the whole. We have need of the type of man who can see the thing as a whole and co-ordinate toward a definite end. The efficiency engineer learned how to co-ordinate individual operations and small sections, but that in many cases proved to be so easy that many utterly unequipped

men set up as efficiency engineers and made themselves ridiculous. They tended to run to systems and often thought more about the systems than what the systems were supposed to do.

The best of the efficiency engineers developed into industrial engineers — men whose experience and intelligence enabled them to see an industry as something more than a good place in which to take the lid off a box of tricks. It would not be quite right to say that William R. Basset is the foremost among industrial engineers, because the very term " industrial engineer " connotes a certain parochial limitation. It is very difficult to classify Mr. Basset, because by the time one has arranged a definition for his class it appears that he is the only member of the class and therefore he is not in a class at all.

I first met Mr. Basset some ten years ago and have had luncheon with him almost every fortnight since. I am not an unprejudiced witness and would not for a moment think of setting up as one. I am entirely convinced that Mr. Basset knows more about industry than any man in the world.

He began as an accountant, but figures to him were not merely historical facts. With him they became living facts. Or, to put it another way: A fast camera tells more about motions than the naked eye can tell. Accountancy furnishes to Mr. Basset snapshots from which he can study the motions of the business, and then, he sees things so clearly and reduces them to such simple elements. When he is through, instead of being amazed at the keenness of his intellect or the breadth of his knowledge, you are apt to say: "Why didn't I think of that?"

Most problems which are said to be complex seem to be complex only because the approach turns and twists so much that we lose our bearings. Mr. Basset does not lose his bearings. He goes directly to the point. It is one thing to get to the point and something else again to know what to do when you get there. Someone has said that a problem stated is a problem half solved. Perhaps it is. But a problem that is half solved is only half solved. A man who has lost one shoe is half shod and unless he has only one leg he might as well not be shod at all.

The reason why Mr. Basset knows what to do when he gets to the point is that he regards every business and every industry not as a thing of itself but as a tool for doing something. He has the broad experience of several thousand cases and he knows so well what each of these cases stands for that he uses them not as precedents or as rules, but as suggestions of what to do or what not to do. In the ten years since our meeting he has taught me whatever I know of industry and has made it seem to me a working together of rather simple elements. He has pointed out, time and again, that the supposed complications are not complications at all but merely exhibitions of awkwardness.

The ability to reduce everything to its elements is the most valuable of all faculties in business. It is the distinguishing faculty of the really big man. Your little man gets lost in the woods; your big man goes straight through the woods. The great corporations, like Standard Oil, United States Steel, and Ford Motor, are very simply organized to do their particular jobs.

William R. Basset is so well grounded in his knowledge and so clear in his thinking

that he is not afraid to do things in the plainest and simplest way.

SAMUEL CROWTHER

BAYSIDE, LONG ISLAND
July 15, 1924

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GUESSWORK *vs.* SCIENTIFIC PLANNING

I

GUESSWORK *vs.* SCIENTIFIC PLANNING

YOU would think, to hear most men talk, that to be in business is as risky as crossing the Atlantic in an open boat. We have all heard the statement, "That is one of the risks business men must take," applied to everything from credit losses to a possible strike in the factory. Just recently a manufacturer complained to me of the risk he ran in estimating sales prices.

"I can't tell what the labor cost of a job will be," he said, "because I can't tell how long it will take a man to do the job. One man will turn out twenty pieces an hour, to-day, and to-morrow will turn out only half as many."

Admittedly, that manufacturer was engaging in a gamble. But all of the uncertainty could easily have been eliminated. How, I shall explain in a later article.

The fallacy that business is essentially risky is widely believed. If you lend money on a residence in which the owner lives, you are content with about 6 per cent return on your money. The residence is not producing wealth; it is earning neither the interest on the loan nor the money with which the owner will repay you. It is a dead thing of bricks and mortar that must be sold in order to produce money.

Yet if you invest money in a going business that produces wealth you demand 20 per cent to 100 per cent return because of the business risks you take. And rightly so, because most businesses are so managed that they are risky and uncertain ventures.

But they need not be. Thoughtful business men see that practically every risk can be eliminated and that a business can be managed so that its profits will be as certain as the interest on a good mortgage. It is merely a matter of applying science to business.

With all the talk of scientific management, there is as yet mighty little use made of scientific methods. Those who use them to the utmost, prosper. But it is common

to find that a concern will use scientific methods in one department and pure guesswork in another. It will have a definite knowledge of its market, but no accurate knowledge of its costs. Or it will use the most modern labor-saving machinery and offer no wage incentive to the workers to get the production that is easily possible from the machines.

In the studies that I have made of something like 1,600 concerns, I have seen perhaps a half dozen which were beyond criticism. Usually, however, I find that some one phase of the business has been highly developed and the others let slide. That is because few men are well rounded out in their capabilities. One is pre-eminently a financier, another a production man, another a salesman. To the salesman, production is uninteresting; to the production man selling is apt to be unimportant.

I know one manufacturer who has succeeded fairly well solely because of his almost uncanny ability to forecast the price movements of his raw material. He is still selling his product as it was sold a hundred years ago — his sales manager is in fact

nearly that old himself. Right now this manufacturer is talking of retiring because of the difficulty he finds in competing with modern marketing methods, coupled with the constant troubles he has with his workmen. I have told him that he deserves all the trouble he has, because he has not kept up with modern methods.

He protests that the risk of strikes and the uncertainties of marketing make business too dangerous. He proposes to take his stake and put it into safe first-mortgage bonds. Yet there are a number of men in this country who could tell him how to put his marketing on a sure basis, and how to remove all threats of a shutdown from labor trouble.

Another man whose raw material fluctuates widely and suddenly in price, has had to take heavy inventory losses in every panic except that of 1920. His buying had always been done temperamentally — when prices were rising he seemed to forget past lessons and to rush into the market on the theory that this time prices would never stop rising. After the last time that he got bitten he complained to me one day at luncheon

that business was too risky. He thought that life on a quiet farm, far from business cares would be ideal. I had been waiting for a good chance to tell him some unpleasant facts about himself. Somewhat accusingly I turned to him.

"Do you play the races, John?" I asked.

"Certainly not," he replied. "You know perfectly well that I am a strict church member of the old school. I never gamble."

"No roulette?" I insisted. "A little poker perhaps or a quiet game of 10-cents-a-point bridge occasionally?"

He stiffened and quite curtly informed me that he had never risked a cent on any game of chance.

"I know you haven't," I relented. "That is, on any game that is commonly thought of as coming under that classification. But with your buying methods you have succeeded in making a gambling device out of a business that should be as free from risk as a government bond. You consider your factory to be of less importance than your ticker. You get your profits from gambling in raw material rather than from producing a useful product at a reasonable profit.

And the sad part, as you know, is that you lose in a month almost as much as you make in three years of rising prices. As the children say, 'What goes up must come down.'

"You have the wrong view of your business. You consider that you are forehanded to buy way beyond your manufacturing requirements in a rising market. But it is just that which brings in the element of risk.

"You should think of your business as a machine which changes raw material into a form of finished product which consumers can use. Charge a fair price for the work of your machine. Plan your production ahead and buy as little material as is safe to meet your needs. Hand-to-mouth buying will not give you any spectacular profits, part of which the government will take away from you as taxes; but neither will you have staggering losses which periodically bring you to the verge of bankruptcy."

He took the advice. Because he realizes that speculative profits will be nonexistent, he now studies his markets and his methods of production. He has been able to cut

costs here and there. These reductions he reflects in lowered selling prices; so that, instead of being in constant competition, he now can undersell his competitors and make money even in a declining market. Business depressions are nothing in his life. He has taken several big uncertainties out of his business.

Marketing is a field in which great uncertainties exist. Seldom does a concern know whether a new product will sell until it has spent a lot of money finding out. Most concerns don't even know how much of their product they ought to sell. Advertising is largely a matter of guesswork. Yet certain concerns have succeeded in eliminating the risks in all of these activities.

For instance, certain concerns that sell by mail test their markets before they make the product at all. One publisher sends out a thousand letters advertising a proposed new book before the book is written. If he gets fourteen orders from that thousand letters he knows that a million letters will pull at the same ratio. If that is a sufficient number to be profitable he goes ahead.

In one case, this concern tested the market

for a book to sell at $3, with unsatisfactory results. It sent out another letter offering the same material in a leather cover at $10 and calling it a "report" instead of a "book". The results were excellent, and further circularizing brought the same ratio of orders. The publisher knew beforehand just how many of the "reports" to print. He had tested his market and eliminated the risk.

The manufacturer of an office device knows how much of his product he should sell to each kind and size of office. He has taken a census of the offices in the entire country and can now set definite quotas for his salesmen. He no longer guesses which men are the best. He can assign territories so that each man has the same potential markets to work on.

One of my clients is a concern in a branch of the textile industry where profit margins are very narrow. It was constantly on the brink of failure. Its operations are performed on semi-automatic machines whose speed determines the production. The big item of cost is in the raw material. The next largest item is the overhead which goes on

without much change whether the plant is operating at full capacity or half capacity.

Our studies showed that the sizes of the pulleys that drive the machines had been determined by the guesswork of an unskilled millwright and that as a result all of the machines were operating on the average at 20 per cent below their capacity. When they were operated at proper speeds the plant's production increased 25 per cent with no extra cost of overhead. In other words the old overhead expense is now borne by 100,000 yards of cloth instead of by 80,000 yards. This one betterment provided the profits that formerly had been absent. This simple change of pulleys took the business out of the business-risk class and put it on safe ground.

Sometimes a seemingly conservative, non-risk-taking policy is in reality risky. I am thinking of the strict control of credits which, in an effort to sidestep the risk of credit losses, so curtails sales as to make the future of the business uncertain.

The credit manager of a concern we were studying bragged to me that his bad debts amounted to less than $\frac{1}{4}$ of 1 per cent. He

kept them at that low figure by refusing to accept two-thirds of the business the salesmen turned in. Analysis showed that if he had taken all of the business offered, the bad debts accruing from the extra business might have climbed as high as 2 per cent.

The net profit in that business was about 15 per cent on the dollar of sales. Say that he was doing a business of $500,000 a year at a profit of $75,000. Now suppose he increased business 50 per cent as he easily could with a broader credit policy. His profit would be $112,000 from which would have to be deducted about $5,000 for the extra credit losses, leaving an actual net profit of $107,500. That's a right bit better than $75,000 a year. And I have not taken into consideration the fact that there would be a still further saving by reducing the idle plant expense by keeping the factory busy.

I have merely indicated in this chapter the variety of risks and uncertainties which may exist in any business and which can, without exception, be eliminated.

There are uncertainties of selling and of knowing what to sell. There are risky methods of production, of handling labor,

of finance. A poor plant location or layout may make a business risky that should be safe. Inaccurate cost-finding methods are a sure and frequent cause of countless uncertainties.

In this book I am going to discuss each kind of uncertainty that can exist in a business and show, without being technical, how representative concerns in many lines have successfully taken the guesswork out of their businesses.

WHAT ARE YOU GOING TO SELL?

II

WHAT ARE YOU GOING TO SELL?

THE industries which suffer most from too much competition are those in which it is easiest to start with insufficient capital. Nearly every unskilled laborer feels that he can "keep store," therefore when he amasses a stake of a few hundred dollars he proceeds to start a grocery store.

Most garment salesmen who have built up what they are pleased to call a "following in the trade" ultimately set up as manufacturers. They can rent loft space cheaply and furnish it with installment plan sewing machines. They seldom make a real study of the market, the demand for their goods or the supply. Experienced manufacturers, are, too, often swept away by enthusiasm and expand their plants in an already over-produced industry — which is really much the same thing. In 1923, for in-

stance, several large knitting plants were built in spite of the fact that our entire requirements of knit goods could be produced by operating the existing plants about seven months a year.

The man who has invented a new device is also notoriously optimistic about its marketing possibilities. Commonly his argument runs something like this, especially if he is trying to get some one to put up money:

"Here is this newly patented combination scarf pin and sock supporter," he will argue. "There are 110,000,000 people in the United States. There are about five people to a family. Then one-fifth of the total must be adult males. That gives us 22,000,000 prospects. Say, to be conservative that less than half buy our product. That gives us sales of at least 10,000,000." And so forth and so on. The "market analyses" on which most new businesses are founded are not much more sound than that. There is an occasional exception.

About three years ago a capitalist referred to me a young man who had invented an excellent light-dimmer to be used on automobiles. The inventor had besought the man

with money to erect or rent a plant and manufacture the dimmer in quantities. It was being made on a small scale, and its use could undoubtedly be increased. It had passed the requirements of several state boards, and was therefore an accepted device. The capitalist was inclined to finance the product. After an investigation I recommended that he do not do so. The device might have sold at about a dollar retail, although its intrinsic value would have been about twenty-five cents.

It would last as long as a car lasted. It would have to be sold largely to accessory stores which meant that salesmen would trudge from store to store selling the dimmer, at what would undoubtedly be a high selling expense. It was highly improbable that, in the face of competition from similar devices, he could hope to sell to more than a relatively small percentage of the owners of automobiles. Were he to sell the improbable number of one-half million a year, that would mean one-half million dollars retail. To make it attractive to the accessory store man, the dollar dimmer would have to be sold at about sixty cents whole-

sale. That would have meant factory shipments of possibly $300,000 a year. Study of the market and of competition made it appear highly improbable that he could attain that volume.

In making the study I went carefully into the figures of automobile output, number of accessory stores, number of satisfactory lighting devices on the market, etc. It was not an article to be manufactured by itself. It possessed virtue, but it should be manufactured and sold by a manufacturer of other accessories as a complement to an accessory line, and not as the sole item of manufacture.

This instance is typical of thousands where it does not pay to found a business on even an excellent product.

A careful study of the markets and of competition is essential before a new venture can be safely launched. Most businesses start under bad enough handicaps of personnel and finance without assuming the extra risk of ignorant optimism. Occasionally however one starts under auspicious conditions even though in a small way.

One place where I acted as a consultant before any definite steps were taken was in a branch of, let us say, the canning industry. Four or five of the principal manufacturing and selling executives of an old established packing plant became convinced that because of a hidebound directorate the concern was losing prestige with its customers and was definitely on the down grade. The time seemed ripe for a newcomer to enter the field and get business away from the old company. Remember that these men *knew* conditions by personal contact with the trade.

So they withdrew and started a new concern. They had been able to forecast accurately how much business they would get; they knew just what lines would sell well, and they knew their costs. Naturally, the venture was successful.

But usually the man who is anxious to start for himself for the first time is in a peculiar mental attitude which does not want to recognize facts that will discourage him in his venture. Therefore, what I have to say in this article will be of most value

to those already in business who contemplate making a new product.

There are three principal reasons why new products are taken on.

The most common reason is unfortunately the least sound. A manufacturer of, say, men's shirts, reasons thus: "My salesmen are calling on department and men's furnishing stores, with nothing but shirts to sell. These buyers also buy neckties, underwear, pajamas and nightshirts. With no extra selling expense we could get business in all of those lines."

To one who has but little knowledge of specialized modern manufacturing methods, this seems not only logical but attractive. Yet the fact is that the plant that is organized to make shirts to best advantage, can practically never make any of those other products effectively. More than a hundred times, I suppose, I have analyzed the cost figures of concerns that undertook to make everything they could sell, and have been able to show that on most of the lines they were making little or no profit.

I realize that the selling force commonly brings heavy pressure to bear on the factory

to make more products. The economy in selling is undeniable but it is practically always offset by the wastefulness of trying to combine several kinds of manufacturing. There are a few freaks who can play twenty-five games of chess simultaneously, and once in a while we see an executive who listens to a salesman, dictates a letter, and talks on the 'phone — all at the same time. But the chess player would play a better game and the executive would drive a better bargain if he concentrated on but one thing.

The Fleischmann Company is an excellent example of the wisdom of concentration. Its own salesmen call daily on 225,000 grocers to whom they sell but a single product — compressed yeast. To many of these grocers the unit of sale is very small. At first glance it seems like wasted opportunity not to handle some other lines that grocers buy. In fact the management is under constant pressure to add lines.

As Mr. Fleischmann says, "So far we have been able to resist the temptation. We are yeast manufacturers, and we know how to make yeast. So long as we confine ourselves to making yeast we can keep costs

down. It takes all of our energy to do this. If we got into other things we would soon find that our costs would rise."

Since the Fleischmann Company sells most of the yeast used in this country and has had a tremendous growth in the last twenty years or so, there can be little doubt that the policy is sound.

If a concern has money enough to build separate plants for its new lines and if it can secure competent executives to manage them there can usually be no objection to diversification. Henry Ford does that. But note that he does not attempt to make tractors in his automobile plant. Even for the strictly war work of making "sub-chasers" he built a plant especially suited to the purpose. Nor does he make the high-grade Lincoln car in the plant that turns out Fords. Yet many other automobile manufacturers — who are nowhere nearly as successful although many of them started with much more money than did Ford — attempt to make all kinds and grades of cars in a single plant.

Ford, it should be noted, utilizes the same

sales outlets for the Ford car, the Lincoln, and the tractor.

Some groups of manufacturers who sell to the same trade have combined their selling efforts, while keeping the manufacturing ends entirely separate. There is no objection to that. The fault comes in when the attempt is made to make several kinds of product on the same machines.

Sometimes a concern is forced to make a new product to meet a changing market. This has happened many times in the last twenty years.

A horseshoe-nail manufacturer found his market dwindling rapidly because of the increase in motor vehicles. He looked around for a new market and quite logically considered first the automobile industry which was growing even faster than the use of horses was declining.

His study was minute and careful. He wanted to find a place where nails of a high quality of soft, flexible iron were needed. He discovered that foundries used just that type of nail in their sand moulds. Foundries were increasing their production

to meet the automobile manufacturer's demand for castings. He still makes horseshoe nails, but his principal market is now the foundry industry.

Since prohibition we have been called on by several concerns in the brewing industry to help them find a product to take the place of beer. Of their own accord most breweries turned first to making near-beer, but they soon found that there was an overproduction because the market for near-beer was not so great as it had been for beer.

In some localities strategically situated we suggested that they be turned into cold storage warehouses for foodstuffs. In others, ice plants were needed. In one, we recommended that the brewery be converted into cold storage for furs. I have heard of yet another which now most successfully grows mushrooms for the market.

The Waterbury Button Company which made principally metal buttons found increasing competition from the manufacturers of composition buttons. It was equipped with light metal-punching machines which could be used for any small punched parts. It had greatly increased its capacity during

the war and found that peacetime demand for the uniforms of street railway employes, firemen and policemen could not keep the plant busy.

So they studied the market and finally hit on the small, perforated metal disks which are used by many of their old customers, the street railways, in place of tickets. They now get a lot of that business. The members of the staff now study every small metal part they come across to see whether they cannot make it. They are prospering greatly on entirely new lines of product, which they, however, are equipped to make.

Sometimes, when an industry is over-developed to the point that competition has made the business too risky, a farsighted manufacturer will decide to specialize on some one line, and thus be able to make it at so low a cost that he will be beyond the reach of his competitors. Great care is needed in choosing the line to specialize on.

A case in point is one of our clients, the Potter Knitting Company, which, as is still customary in that industry, formerly made a complete line of men's, women's, and children's knit underwear. Mr. Potter decided

if he could concentrate on a single line he could undersell his competitors.

In the past ten or fifteen years there has been a constantly increasing demand for babies' shirts, which formerly had been made at home. While by far the most of the underwear sold is for adults and older children, Mr. Potter found that in the aggregate a tremendous number of babies' shirts were used. No one specialized in them and the volume of sales was a small part of the total volume of those knitting mills which made complete lines.

With his cost system as a guide, Mr. Potter found that by concentrating on babies' shirts only, in twenty varieties of material and finish, he could undersell his competitors more than 10 per cent. Thereupon he discontinued all other lines.

He found that he could sell to large stores that he could never reach before. His total volume of business has increased largely, and in recent slumps when other mills have shut down or gone on part time, he has been able to continue at normal production. By good judgment in selecting a line of prod-

uct, he has removed the uncertainties of selling from his business.

Somewhat similar is the case of the Middishade Company, a concern which a few years ago was one of thousands making a complete line of men's suits. Counting variations of material, style, and finish, they could be called on to make literally thousands of varieties of suits. From a manufacturing point of view this was unsatisfactory and expensive. They were in the position of fighting for business against a multitude of competitors with no advantage in price or style.

They wisely decided to concentrate; but on what? An investigation of the business done by 1,000 clothiers showed that one-quarter of all men's suits sold were blue serge. Further study showed that by making nothing but blue serge in twenty-four models and in a single weight they would be able to cut selling prices 25 per cent and still make as much profit as ever on each suit. The economy of concentrated quantity production made this possible. In one year their sales increased 100 per cent and they

now sell to 1,000 retailers, to 850 of whom they were never able to sell before.

By telling of these highly contrasting instances I have tried to show two things about the uncertainties of marketing. First that it is possible to *know* beforehand whether a product will sell. And, second, that if a concern confines itself to selling that product which it is best equipped to make, the marketing risk can be made negligible.

THE HIGH COST OF VARIETY

III

THE HIGH COST OF VARIETY

DOES it pay for a manufacturer to make, or a retailer to stock, every variety of product that a customer may want? If a business is organized to handle that kind of trade and if it can charge a high enough price, it may pay in a small way, but such a business can practically never be big nor stable. It is always risky, and subject to sudden and heavy losses. Its costs are too high and its turnover too slow.

I am not talking now of the temptation to add entirely different lines of product, but of supplying an undue variety of items of the usual lines.

Usually when this is done it is because of the insistence of the salesmen who claim that they must be able to offer a wide assortment of hats, paving bricks, fence or whatever it is they sell. This diversification may make selling easier but it always increases

the cost of making to a point where profits suffer; and after all it is profits, not mere sales, that are important.

At the same time, the retailer who handles these varieties is worse off, for his turnover is slow, he has slow moving stock that must be gotten rid of at a cut price, and his investment is increased.

That every one from manufacturer to consumer suffers in the long run from too many varieties is now becoming realized and some farsighted business men are simplifying their lines. By doing so they are safeguarding their businesses from many risks.

Take the Knox Hat Company, for instance. For years hat manufacturers competed to see which could offer the retailer the widest range of styles, colors, weights and finishes. In 1922 the Knox Hat Company made 9,720 varieties of soft hats alone. That was, on the surface, nice for the retailer, but it ran costs of manufacturing up tremendously. Machines had to be shut down frequently in order to change from one kind of hat to another. An undue num-

ber of kinds of raw material had to be carried in stock.

The company made a careful study to see what savings would result if they reduced the number of varieties they made. As a result, they reduced the number of styles and of colors 33⅓ per cent, and the number of weights from 4 to 3. They also reduced the number of finishes in which hats would be furnished. That was how they cut the varieties in one season from 9,720 to 3,684. Since then they have still further simplified their lines and now make only about 2,000 varieties.

They now do a business with an inventory of fur — the principal raw material — of only $20,000 that under the old conditions would have taken $100,000. In one department the cost has been reduced 20 per cent. In several departments the production has increased 25 per cent — in others 10 per cent — with no additional cost for labor or overhead expense. Because fewer varieties are made, fewer blocks and forms are needed. That saves about $5,000 a year.

As a result of these savings in cost the

company is now turning out better hats in the face of higher labor and material costs than ever before. And instead of having to raise its prices, it has actually reduced the price on its biggest selling hat. The retailers who now carry Knox hats are pleased because they get a better hat for less money. They buy fewer varieties and make bigger profits.

The principle is universal. What is good for the Knox Hat Company has worked out equally well for the Remington Arms Company. At one time this concern loaded more than 12,000 varieties of shotgun shells although the game in the United States that is hunted with a shotgun warrants only eighteen varieties of load in each gauge.

Shells are loaded on automatic machines that have to be shut down and adjusted every time a new load is put into manufacture. It costs $6.25 an hour for labor and overhead while the machine is idle, to say nothing of the lost profits on the shells it might be making.

The company has been trying for fifteen years to reduce this needless variety, but it has had to overcome the prejudice of

hunters, nearly every one of whom has a pet load, different from any other, for each kind of game. However, it has now reduced the number to 1,600 and hopes ultimately to reduce the varieties still further to about 160.

By cutting the varieties from 12,000 to 1,600 about $37,800 a year is saved in the loading department alone, merely by reducing the idle time of the loading machines.

The Remington Arms Company, having fewer varieties of shells to carry in stock, can now carry more shells of each kind and so can make prompter shipments. It can carry a stock of 50,000,000 loaded shells in 42 per cent less space, because they can be piled more compactly. This holds true just as well for the wholesaler and jobber.

Without the savings in manufacturing costs made by simplifying its lines it would probably have had to raise prices to meet the increased price it has to pay for labor and materials.

There are concerns that have simplified their lines in nearly every industry. Take the Rosenthal-Ettlinger Company, for instance, which for years had done only a

small business although making a complete line of boys' suits, overcoats, odd pants, children's suits, young men's clothes, and mackinaw jackets. They were in competition with dozens of houses, and their business was precarious because they had nothing special to offer as to quality or price.

They decided to stop making these six lines in the sixty models and to make nothing but boys' suits in eight models. As a result of manufacturing economies, costs have fallen 30 per cent. This saving has been passed on to the retailer, which gives the Rosenthal-Ettlinger Company the inside track over their competitors when it comes to boys' suits. They sold 37 per cent more suits the first year than ever before. Their profit is greater. The big risk from competition has been removed.

Another common risk of business — that of seasonal production — has been eliminated.

Since they now make only a few models, they can afford to manufacture during dull seasons to stock, without the risk that this usually entails. Whereas from thirty-five

to forty weeks a year is the usual manufacturing season in the clothing business, this concern now safely operates at 100 per cent capacity for thirty-five weeks and at 90 per cent of capacity for the other seventeen weeks when most garment factories are shut down.

Turn now to so different a product as the paper-folding machines which are attached to printing presses. The Dexter Folder Company, one of our clients, was not long ago making sixty types and sizes of folding machines. In fact they had to be ready to make machines to meet the fancied needs of hundreds of freak folds.

As the result of a study of paper sizes and so forth, this concern has reduced its line until it makes only six standard types of machines in a total of thirteen sizes. It has reduced its overhead expense per machine and has increased the productive capacity of its plant. Its machines are so thoroughly standardized that it can do much more manufacturing to stock and so get lower costs of manufacturing, give more uniform employment to its workers, and give quicker and better service to the customer.

As the president of the Dexter Folder Company says, "With standardization we can solve many of our labor, selling, service, and erecting problems and make our customers' money more productive."

I have said that this concentration of effort on only enough varieties to meet legitimate needs works out as well for the retailer as for the manufacturer. Take the case of a Western clothier doing a large business.

He saw how much he was benefited by the Knox Hat Company's program and decided that if it worked on hats it would work equally well on the numerous other kinds of men's apparel that he handles.

He carefully studied his stock and found that his store carried a needless variety of goods so similar that they served no good purpose in increasing his sales. As a result he does not now buy a wide variety of similar goods, but concentrates on a few styles, models, designs, etc. Merely by simplifying his stock, he has cut his inventory $88,000 — a matter of about 22 per cent. He expects to reduce the inventory fully 15 per cent more when he completes the change in policy.

All of this time his sales have been increasing; so that it is evident that diversification is not essential to get a large volume of sales.

I recall a retailer in a college town who got into financial difficulties and was managed for a year or so by a creditors' committee. In the stock were found nearly a half gross of sleeve garters which had been bought some two years before because within a month there had been two requests for these nearly obsolete items of equipment. In the next two years only three had been sold.

This condition was typical of the entire store. It carried several hundred varieties of hats although more than 40 per cent of its business had been done in one style and ten colors. When the needless varieties were eliminated the store prospered.

These instances point to a fundamental principle that lies at the bottom of success in all branches of business, although perhaps it is most important in manufacturing. It is that any business must definitely fit into one of two classes. It must be admittedly a craftsman concern, ready, like the

custom tailor, to make exactly what the purchaser wants and able to get a big price for it; or it must make only a few varieties of a standard product and decline to vary from its standard or to offer needless varieties.

The first kind of business will seldom become large and it will be subject to most of the risks caused by business depressions and high costs. The other, being able to sell a high quality product at a low price, will have the edge on its competitors, and will therefore be stable and free from most risks.

There can be no successful straddle between the two types. A quantity production shop must make only a few sizes, styles, and models or it ceases to be a quantity shop. If it tries to make too many varieties its profits — even its existence — become more uncertain than that of the custom shop that is able to get a wide margin of profit.

TAKING THE RISK OUT OF PERSONAL SELLING

IV

TAKING THE RISK OUT OF PERSONAL SELLING

THROUGHOUT business it is almost invariably true that products are sold less efficiently than they are made. Perhaps that is because in the factory we are dealing with things that can be seen and touched and measured, while in selling we are dealing with that most intangible thing — psychology. Just why one man can sell and another cannot is not well understood; we may form opinions but, so far at least, we cannot measure how much a salesman should sell as accurately as we can measure how much a workman should make.

Many concerns that make their products at low cost compared to their competitors, fail because it costs them too much to sell. It may be that their salesmen don't sell enough or that they sell in proper volume but at too great expense. Wages and salaries of factory and office help are

pretty well standardized for each industry, but I find a wide variance between the earnings of salesmen of about the same capacity.

Then, too, there is very little expert judgment used in choosing salesmen. Some sales managers swear by college men; others will not have one around. Some use intelligence tests, others sneer at them. My own opinion is that if the right kind of test is chosen it furnishes an accurate guide. Cheney Brothers, the silk manufacturers, submit all new employes except factory operatives to intelligence tests, and several years' experience has shown that a man's value corresponds very closely to the showing he made in the test. In fact, the highest grade so far attained was by a man who was hired for a high and important position in the sales department.

A most common mistake, I find, is failure to realize that there are really two kinds of selling, each requiring a different type of man. Two concerns of which I know, the Richardson Corporation and Lowe Brothers, have realized this. The first makes syrups for soda fountains and the second

makes paints and varnishes. Each of these concerns sells its products to retail stores.

It is customary for concerns which distribute in this way to put a man into a territory and expect him not only to be an order taker calling regularly on the retailers who already carry his goods, but also to persuade non-customers to handle his line and throw out the line of a competitor. The first type of selling requires a plugger who can make and keep friends and who is content to make the monotonous route year after year with catalogue and order book. He is the kind who can remember that retailer John Smith smokes a certain brand of five cent cigar and that his daughter takes elocution lessons. He is seldom the kind of man who can, by sheer enthusiasm and persuasiveness, sweep a prospect off his feet and open a new account.

On the other hand, the high pressure man who can sell new accounts is usually too temperamental to stand the drudgery of routine selling. He must have variety and frequent contests for his wits. He is, as the saying goes, "A good horse for a short

race." But he can't stand the grind of a long race.

So these concerns have two kinds of salesmen: the routine men who attend strictly to calling on their accustomed trade, and specialists who go into new territories that are already being worked and call on prospects who have not yet been sold. The two types use entirely different methods and each is master of his own peculiar technique.

There is another reason why this method makes for lower selling costs. It is usually well for the order taker to make his rounds at least quarterly, to make sure that competitors do not steal customers from him. To sell a new customer may take several days. For a routine salesman to take that much time means that he will be dangerously neglecting his regular trade.

In some lines there is an additional reason for having both routine and specialty men. When retailers buy during definite and usually short seasons it is especially necessary that the salesmen cover their territories in the shortest possible time, with no interruption for selling new accounts. The Knox Hat Company has found, too, that it takes

several days to open a new account, and that this work can best be done between seasons when the retail merchant is not so rushed with buying. Therefore it has a specialty man who does nothing but work on prospects. He has the entire United States for his territory, but when he has once prevailed upon a retailer to become the agent for Knox Hats, he turns the account over to the regular salesman for that territory, who handles it in the future.

This is a sound selling policy which has been adopted, with variations, by several other concerns.

The Clover Leaf Milling Company, for example, which sells to feed and grain dealers, has a flying squadron of high pressure specialty men who invade a new territory in force to get new dealers, and who then pass on and leave the further routine selling to men of an entirely different type.

This flying squadron idea was used for a somewhat different purpose by the H. J. Heinz Company. For many years they sold to retail grocery stores through the medium of wholesale grocers. But they

became dissatisfied with the volume of sales they were getting, and decided to eliminate jobbers, establish their own warehouses around the country, and sell direct to the retailers.

But before they could afford to establish warehouses, they had to get a quick increase in sales. To do it, they put several flying squadrons into the field, comprised of picked specialty salesmen of the dynamic type, who could sell in a single call. In a very few months these men had accomplished the purpose. A warehouse was started and a large volume of sales was thereafter handled by men who can be classified as order takers.

It is most important to know how many calls it pays to make upon a prospect in order to sell him. I remember one salesman who persisted in calling as often as four times a month, generally with no effect. The "single call" type of salesman is undoubtedly the most effective when new accounts are to be opened.

The Arcady Farms Milling Company studied this problem and found that one of the principal reasons for a high cost of

selling was frequent and unproductive calls on prospects. As a result, they adopted a policy of having a good specialty man call three times on a non-customer. If in that time he has not opened the account, no further calls are made for at least two years. They find it is cheaper and more effective to work on other prospects and that in two years the obstinate prospect may have a change of heart.

One reason why selling costs more than it should is because adequate methods of determining the cost of selling are not in general use. In manufacturing, cost figures have one of their most important uses in pointing out to the executive where effort is being misapplied, and where money is being spent without adequate return. The usual way to determine the cost of selling is to divide the total selling cost by the gross sales, and state the result as a percentage. Thus, the cost of selling $1,000,000 worth of goods is said to be 10 per cent if the selling expense happens to be $100,000. That is true for the business as a whole, but it tells nothing about the cost per salesman, or the cost to sell a specific customer

and to keep him sold. I have seen many a concern with, say, a ten per cent selling cost, spend as much as 25 per cent keeping a customer who, at that figure, showed a loss.

As I have convinced some of my clients, the important thing to know is the cost per salesman's call. A normal figure representing what a call should cost in any territory can be determined from past experience. Then each month the actual cost per call for each territory is worked out and checked against the normal. If it is too high, it means that the salesman has been extravagant, or lazy, or both. In any event, the cure is indicated promptly.

These concerns maintain a memorandum account with each customer or each class of customer on which is charged all calls made upon them and all advertising helps furnished. On the opposite side is credited the profit on sales made to this class or individual. The difference is the profit or loss. It is astonishing to see from such records how many supposedly prize customers return no profit to the seller. It is frequently discovered that the company

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cannot afford to sell, in its customary form, to hundreds of its customers whose purchases will not absorb the cost of selling to them. Conversely it will be found that many a big customer is imperilled or good prospect lost, because the cost of sales service to the little fellow is insistently charged against the whole business.

A knowledge of the cost per call gives many valuable checks on selling methods. One concern whose salesmen call on the established trade and also spend some time trying to sell new accounts, segregates its calls between those made on customers and those made on prospects. For each territory it sets up a ratio between the amount of money that should be spent on both classes, based largely upon the ratio that exists between present customers and possible customers. Then if for any period a salesman spends an unjustifiable amount of time on either class, he is called upon to explain.

This concern finds that it is most common for its men to neglect prospects because the successful order taker seldom likes to break new ice. He lacks initiative,

and prefers to call on his old friends, with whom he feels at home.

Many concerns have found this to be a failing common to salesmen, and have tried to devise ways to stimulate the men to overcome this fault.

Art-in-Buttons, Inc., has worked out a point method of paying its men, by which it offers an incentive to get them to do the things most salesmen dislike to do. Thus a certain number of points is credited to a man for each dollar of profit on sales that he makes to old customers, and a greater number of points per dollar for orders from new prospects. For properly doing the clerical work involved by reports of calls and reports on credit, he gets a stipulated number of points credit. For making or exceeding his sales quota, he is also credited.

Each point has a definite value in dollars and cents. At the end of the year he receives a bonus at this rate, measured by the number of points he has earned.

This method can be worked out for nearly any business and it is an excellent way to

reward salesmen. It combines the best attributes of both the commission and the straight salary method of payment, without the bad features of either.

Those concerns whose product is such that they can afford to employ high-grade salesmen at a large salary have, as a rule, less trouble in getting their salesmen to work conscientiously; yet even these often find it desirable to hang up some kind of an incentive. Those — and they are in the majority — which have to get along with mediocre sales talent, find that on a salary basis they get what they pay for, and no more.

The commission basis is usually wholly bad, for the incentive is not only to make sales, but to make them where they are easiest and to neglect potentially fertile fields that need preliminary cultivation. It is almost impossible to control the commission salesman, for he looks upon himself as his own boss, and refuses to work for the interest of his employer, if that interest conflicts with his own.

The point system can be applied to any

kind of business, and to salesmen of any earning capacity. It is only necessary to vary the money value of the point, and to assign point values to various activities in proper amount to stimulate action.

Salesmen's expenses are a prolific source of high selling expense in two ways. Extravagance is one, although generally the salesmanager or financial man watches expense accounts carefully and tries to prune them down to reasonable figures. But because he is in the office and unfamiliar with the day-to-day emergencies that face the man on the road, he is apt to miss items that he should catch and cut out items that are legitimate. It is this last error which indirectly causes a high selling expense for many concerns.

Good salesmen are often temperamental and apt to fly off the handle when their expense accounts are questioned. I know of three concerns which suffer from a very high labor turnover caused by salesmen leaving in a huff because of disputes over expense accounts. Since it costs from a hundred to a thousand dollars to break in even average salesmen to the point where they

become profitable, a wrangle over a few dollars is apt to be very costly.

Several concerns who had this trouble have adopted the method of paying expenses that my organization uses with its staff engineers and accountants. It has worked as well for them as for us, and I can recommend it to any concern.

This is the plan:

Railway fare is allowed at exactly one-way rates. An individual may buy mileage or round-trip tickets and make a profit on his allowed expenses, but he must assume the risk of loss through inability to use them.

Sleeping car berths are chargeable at lower berth rates, regardless of whether upper or lower is occupied.

Parlor car seats are charged when the distance traveled without change of cars is in excess of 99 miles. The living expenses, including meals, rooms and tips with meals, etc., are allowed as follows:

In towns up to 10,000	$3.85 a day
In towns from 10,000 to 40,000..	$4.95 a day
In towns from 40,000 to 70,000..	$5.50 a day
In towns from 70,000 to 250,000..	$6.50 a day
In towns over 250,000.....	$7.15 a day

The population of a town or city is determined by the figures given in the latest issue of the World Almanac or Official Railway Guide, whichever may be the higher.

Certain allowances are made for tips, bag checking, etc. and the day is divided into fractions, so that days spent in more than one town may be accounted for. I cannot give all the ramifications of this plan in this chapter; suffice it to say, it works well and has almost entirely eliminated disputes.

The plan applies to every one in the company's employ, including executives, and is not designed to make any money for the company, but rather, to give the staff member a little gain. The company, however, gains the advantage of decreased clerical labor, avoids the disagreeable task of criticizing expenses, and eliminates all questions of honesty.

Variations of this plan are in use by a number of concerns having widely different problems of personal selling.

The points covered in this chapter are typical of those which bring undue risk into selling. They are by no means exhaustive. But they are typical of those which cause

high costs. My aim has been to indicate how they have been solved, in the hope that business men will be stimulated to study their own particular problems, with the assurance that most of the uncertainties can be eliminated.

TAKING THE RISK OUT OF BUYING

V

TAKING THE RISK OUT OF BUYING

THE old saying, "well bought is half sold," should be kept in mind by business men more generally than it is. The principal reasons for business failure given by Dun and Bradstreet are overbuying, insufficient capital, extravagance, and poor judgment. They often all mean the same thing — poor buying. It is one of the most dangerous risks to which business is subject.

Although retailers and wholesalers as a rule realize the truth of the axiom more acutely than do manufacturers, the number of clearance sales is an indication of the fact that they are liable to have their judgment drowned in their enthusiasm and end up with unbalanced stocks of goods.

All business of any kind necessarily starts with a purchase. Broadly, purchases are of

two kinds — goods to be resold or to be manufactured and sold, and supplies which are consumed and which are essential to carry on the business.

In Chapter I, I mentioned a manufacturer who looked on his textile mill — his whole business in fact — merely as an excuse to speculate in raw materials. This is common although it is unnecessary and is in fact courting ruin. To be safe a business should live strictly up to the fundamental basis of all business which is that it exists to render a service and that its profits are a fair charge for that service. The manufacturer does a service when he transforms raw copper, cotton or steel into wire, cloth, or automobiles which can be used. The wholesaler performs a service when he distributes the manufacturer's product cheaper than can the manufacturer himself, and the retailer serves when he makes it possible for the consumer to buy conveniently from a wide selection of goods.

When any of them make profits by speculating they are getting something without giving a worthwhile return and may ultimately be punished with losses.

I shall discuss this problem of buying from the standpoint of the manufacturer, because his problems include those of all other business men, with a few others to boot. The methods that eliminate, or at least reduce, risks for the manufacturer are fundamental and can be applied equally well by retailers and wholesalers. It is well, too, for the banker to have these fundamentals in mind for use in judging the repaying ability of business men who come to him for loans.

Bankers commonly look upon inventories of staple raw materials, such as cotton, wool, steel, copper, sugar, and grain, as good quick assets. They are in such universal use that they are considered almost the same as ready money. Ordinarily a man can borrow half or more of their value. Yet it is not always safe or wise to have bigger stocks of these than can reasonably soon be transformed into finished goods. As a well known retail jeweler said, "In 1920 the only thing quick about such assets was the speed with which the price of them went down."

He was protesting because bankers commonly look upon precious jewels and jew-

elry as slow assets. Yet a well balanced jewelry stock can practically always be moved in short order by means of a slight cut in price.

A perfect balance in stocks of raw materials is more to be desired than a speculative profit on an unbalanced stock. The trouble is that in manufacturing even a moderately complicated product it is sometimes hard to tell when a stock is out of balance. In fact, only by having a well constructed system for planning production is it at all possible.

Such a system was installed by us for the Warner Gear Company which manufactured automobile transmissions, gears, controls, differentials, and the like. Their raw materials consisted largely of bar steel, forgings and castings. Before they had a definite planning system, they had no sure way to tell just how much of each kind of material they would use in any given period.

Therefore, they would be liable to find themselves with four or five months' supply of forgings, enough steel to last several months, and only thirty days' supply of a certain casting. Since all of these had to be

assembled in a finished product, it is obvious that they were occasionally unable to make deliveries because of a shortage of some relatively unimportant material.

This was bad enough, but there was another serious condition involved. All of the raw materials beyond a month's requirements were idle, tying up working capital, subject to depreciation in market value and taking up valuable space.

The method which they installed made it possible for them to schedule the production of each part as much as three months ahead. They know definitely now just how much of each kind of material they will put into production each day. They can specify deliveries intelligently, taking into account their production needs, and so avoid all of the evils which go with unregulated and uninformed buying.

This concern follows a practice used by many who wish to avoid the dangers of unbalanced stock. They decide for each item that they buy a minimum quantity below which their stock is not ordinarily to fall and a maximum beyond which it is not allowed to rise. This automatically prevents over-

buying and at the same time provides a safe reservoir to prevent a shutdown in case a supplier fails to live up to his promises of delivery, or if a delay occurs in transportation.

The Rochester Stamping Company, which manufactures small brass and copper parts, formerly bought copper a long way ahead when they thought copper was cheap. They, too, installed a production system and a means for controlling their inventories, and when last I knew them bought copper for production needs only. They no longer speculated and so found that their profits were more stable and satisfactory year in and year out.

Unregulated buying often causes losses due to material becoming obsolete. Take the case of a concern which makes transformer boxes. It bought castings, machined and assembled them. Every now and then the engineering department would alter a design somewhat in the attempt to better the product, and parts of the new design would at once be ordered without regard to what old parts were still on hand. There were no stock records worthy of the name;

therefore there was no way to attract executive attention to the stock of parts on hand which became obsolete when the part was redesigned.

Our study of the plant showed a congested condition in the stockroom, caused largely by these obsolete boxes. The inventory contained several thousand dollars' worth of material which was obsolete and which had to be written off as a loss. Had there been proper coördination between the engineers, the stockroom, and the purchasing agent, these parts would have been used up before the new design was put into production and the loss would have been avoided.

Many a concern finds itself cramped for working capital because it has an undue amount of money tied up in inventories of raw material. This may be due to errors in judgment in buying too much, or it may be that too many varieties are being purchased. That is often the fault of the engineers, but the capable purchasing agent will, when a new variety of anything is asked for, take steps to see if something already on hand will not do.

For instance, in one shop, we found that 184 varieties of screws were purchased each year to suit the whims of designers. A study showed that about 25 varieties would meet all needs. They were standardized and no other kinds bought. The same was done with bolts, nuts, nails, and similar small parts, with the result that the average inventory was reduced $20,000, which was 40 per cent.

Another plant carried in stock nine sizes of square brass rods, thirty sizes of round bars, and twelve sizes of hexagonal. The assortments of wire, strips, and sheets were even greater. When a study was made of the actual requirements it was found that 77 per cent of these sizes could be eliminated. A great many thousands of dollars were released for other purposes, thus greatly reducing the risk that the concern ran of having to write off heavy inventory losses in a price slump.

This policy of standardizing a few types of material is not so widely practiced as it might be. It is of general application. For instance, the Waldorf-Astoria, Incorporated, which operates the Waldorf, the

Bellevue-Stratford, the New Willard and the Savoy hotels, has saved thousands of dollars by standardizing the things it buys.

Formerly the china used in each hotel bore the hotel's monogram. That meant that each hotel had to carry a stock of its own china, averaging about $100,000. By eliminating the monogram a saving was made in the purchase price of about thirty cents on each piece. Since the china is now interchangeable between all of the hotels, a central stock can be carried of a money value about that which each hotel formerly carried.

This concern has also reduced the varieties of nearly all of its supplies. It has standardized on ten varieties of glassware where formerly it bought thirty kinds. The one best kind of wrapping paper, twine, forms, stationery, brooms, mops, carpet sweepers and 200 other items of the sort has been standardized. All of the hotels now use the same design of table linen so that a manufacturer can set certain looms to make this style and operate them the year round.

As a result the Waldorf has not only re-

duced its average inventory by $350,000 or so, but it also has reduced the cost of the products it buys by about 20 per cent — a saving that amounts to about $100,000 a year.

Another point that every purchasing agent should decide after careful study is in what stage of fabrication to buy his raw materials. There is always a point at which it is best to start the processes in one's own plant. Shall the automobile manufacturer, for instance, buy an axle all ready to be assembled in his car? Shall he buy some of the forgings and some of the finished parts and partially make the axle? Shall be buy the steel and make the parts himself? Or shall he, like Ford, operate his own blast furnaces, make pig iron and steel and carry on all of the operations himself?

To cite the Waldorf again will provide a good example of how this has been worked out. It uses a great deal of chinaware which it formerly bought already decorated. It investigated the possibility of operating a pottery to make its china but found that its requirements were not enough to keep even a small pottery busy. Its study showed

however, that it could utilize the most of the capacity of a decorating plant. Therefore it now buys all of its china in the white, and decorates it in its own plant at a saving of about 30 per cent. Here is a phase of buying that well warrants careful study. The Waldorf has studied every material it buys. As a result it operates its own mattress plant, garment shop for maids' uniforms, ice cream plant, and candy factory. Other things it finds can be more cheaply purchased in finished form.

Most concerns nowadays specify the quality of the raw materials they buy and subject them to tests to see that they come up to the mark. Commonly they are not so careful of such supplies as belting, packing material, brooms and so on. Yet these items often total a good many thousand dollars a year, and poor judgment in buying them causes serious losses. Usually this is because they are bought on price only or because no study has been made to determine what quality is cheapest in the long run.

The Oxford Paper Company some years ago employed a new purchasing agent who

decided to find out what kinds of material were ultimately most economical regardless of what the first cost was. To show the performance of every material purchased, he installed records which in time saved many thousands of dollars a year.

Here is what he accomplished with just one item — leather belting. A card was prepared for every belt in the plant on which was recorded a description of the belt, the price, the maker's name, the machine or drive on which it was used, the date installed, the date removed, the production of the machines to which it furnished power, and its condition when removed.

After this information had been gathered for a while the purchasing agent was able to buy for each purpose the type and grade of belt that gave the lowest cost per unit of production. As a result, within five years the cost of belting became $12,000 a year instead of $17,000 as it had averaged before the new policy was adopted. This $5,000 a year saving came in the face of an increase in belting prices of 50 per cent and an increased factory production of 33⅓ per cent. That means that the expenditures for

belting were 62 per cent less than they otherwise would have been.

The New England Enameling Company found that for packing kitchen utensils it was economical to buy the highest priced excelsior. This material is made from several kinds of wood such as pine, hemlock, and poplar. It made tests on two of the commonest kinds — pine for which it paid $14 a ton at that time, and poplar which costs $17 a ton. It had been using pine exclusively because of the $3 a ton lower price.

In making the test several cases were packed with each kind of excelsior. Each case contained two dozen pans. The cases were packed under actual working conditions. The amount of packing used was weighed and the time required was measured.

The more expensive excelsior took a little less time to pack, but this difference was so slight that it was not considered in estimating the saving. The important point shown by the test was that it took 5.83 pounds of the $14 excelsior to pack a case, while 3.46 pounds of the $17 packing sufficed. The

average monthly consumption of poplar excelsior was 26 tons costing $442, while 43.7 tons of pine were required monthly at a cost of $611.80. The yearly saving by using the more expensive excelsior was more than $2,000.

Such tests as these can well be applied to every material purchased.

Co-operative buying is the source of great saving. For example, the manufacturers of cotton webbing such as is used in garters, suspenders, and industrial belting, have formed what they call the Web Manufacturers' Exchange. Few of these manufacturers use enough cotton yarn to give them a strong influence in the market. By pooling their requirements they buy enough to enable them to get prices lower than any of the individual members could command. The mills from which they buy can afford to quote lower prices because they set up machines to run only a single kind of yarn the year round, at a considerably lower manufacturing cost.

Even with the closest supervision of buying, any concern is liable to find itself with surplus raw materials on hand which it

wants to get rid of with as little loss as possible. At the same time other concerns may be in desperate need of just such material and would welcome the opportunity to buy it at a slight concession below the market price.

To provide a clearing house for surplus materials some industries exchange information as to wants and overstocks. Often this is done as one of the trade association activities. Is New York City there is an organization called the Surplus Steel Exchange. This organization lists excess stocks of steel that any concern has on hand and circulates the information among purchasing agents. It puts buyers and sellers in contact, lets them consummate the deals themselves, and charges a moderate commission. This is a plan that is being widely adopted and while it is not so good as closely regulated purchasing which prevents either underbuying or overbuying it affords a way to minimize the losses and risks that result from mistakes of method or of judgment.

ELIMINATING THE FINANCIAL RISK

VI

ELIMINATING THE FINANCIAL RISK

READING the newspaper pages headed "Business News," one is forced to the conclusion that business consists of loans and discounts, stocks and bonds, dividends and interest, stockbrokers and bankers. Finance — that is to say the handling of money in some of its forms — seems to be all important. There is little said in those pages of production, of getting the most out of machines, or of selling methods and distribution.

No doubt the editors know what their readers want, but I submit that they use the wrong title when they call discussion of these things "business" news. Finance is not all of business — it is in fact a comparatively small part of it. But practical finance on a scale too small to interest Wall Street *is* of exceptional importance to the small

concerns which comprise more than 90 per cent of American business. Where to get $50,000 has kept many a good business man awake nights; the uncertainty of getting it provides a serious risk; failure to get it often means bankruptcy. But to the man who needs $50,000 the underwriters and investment bankers who are uninterested in anything less than a half million dollars are of no help.

If you want a million and can show that your business warrants a loan of that size you will have no trouble getting it. Your banker can tell you how, or you can learn all about the upper reaches of finance that you are entering from any one of a dozen learned tomes on the subject. I am writing this article for the little fellow who could hardly get past the major general who guards the door of a big bank. I am going to do it by telling stories of several concerns with whose affairs I am acquainted.

A manufacturer of automobile motors whose name I am not at liberty to give, badly needed additional plant facilities, to give him the production he could easily sell. The new plant was going to cost a matter of

$3,000,000. This was at a time when money rates were high and money was hard to get at any price. He had about decided to get along without a new plant, and had employed my concern to tell him whether there was a possibility that part of the needed increase in production could be achieved by speeding up his present plant.

Our study was discouraging at first, for the plant was modern and well arranged, the workers were skilful and conscientious above the average and most of the methods in use were scientific.

But we noticed one thing. Frequently a hundred or so motors standing on the assembly floor could not be shipped because some little inexpensive part had not been finished on time. Also, here and there throughout the plant would be found large quantities of parts waiting at a machine for the next operation. It was quite obvious that a large part of the $4,000,000 inventory of goods-in-process was actually waiting idly for some reason or other. It could have more properly been called an inventory of "goods-in-waiting."

Without getting deeply into the technical-

ities of the problem, here was the trouble: a motor is made up of several hundred parts, some of which take as much as six weeks to make, while others can be made in day or two.

When an order for 500 motors was received, all of these parts were put into operation at once. Most of them were completed in a few days, but could not be used until the parts requiring six weeks' work were finished. All of this time money was tied up in the form of labor and material in parts which would not be needed for several weeks.

A system of production planning to fit the needs was devised and installed. Now all parts are not started at the same time; they are started at such a time as will bring them, finished, to the assembly floor at the same time.

As a result the concern rapidly used up its excess goods-in-process, and was able to maintain its usual production with a goods-in-process of only $1,000,000, instead of $4,-000,000. Thus it, to all intents and purposes, swept up from its own floor the $3,000,000 it needed for the new plant.

While in this case the figures are unusually large and the condition unusually acute, it is a condition that often exists. I always advise the manufacturer who says he needs more money to look into his own business first and see if he can't find it there.

Another instance of internal financing occurred in the case of the A. C. Gilbert Company, which manufactures a line of toys. Like many in various lines its sales are highly seasonal. It must manufacture the year 'round in order to build up a big enough inventory to meet the shipments that must be made in a very few months. That required an investment which called for a bigger line of credit than any bankers were willing to extend.

As a result of studies which we made of the business we discovered that about three quarters of the parts entering into the toys were inexpensive. A year's requirements could be made in eight or nine months and the stock of these parts would not tie up a large sum. The remaining parts were expensive and when made up represented more than half of the total investment in finished stock.

So we recommended that the plant operate for the eight or nine months on the cheaper parts. To carry them would require only a part of the concern's borrowing capacity. Then, just before the selling season started, the plant would switch over and make the more expensive parts. As these were finished they were to be assembled with the cheap parts to make the complete toy, and shipped. Practically no borrowed money was required to carry them.

This is an expedient that can be adopted by many concerns in different lines of business which have financial problems caused by seasonal sales.

In fact the same principles were used by the Richardson Corporation which packs various fruits and syrups during the growing seasons and sells during certain other seasons. Under ordinary conditions of operation for instance it would have to pack its strawberries and carry them for nine to ten months before it could sell them. Depending upon how you look at it the selling season came about ten months after or two months before the manufacturing season.

There was no way in which the company

could avoid having money tied up in raw strawberries, for the farmers received cash for their crops. But raw strawberries were not the big item. It was the investment in sugar for the syrup in which the berries were preserved, and the glass jars and bottles in which they were packed that caused the financial problem.

When the company was small its capital was sufficient to finance this method. As soon as the berries were bought, they were cooked, combined with the syrup, put in glass jars and kept in refrigerated storage for nine to ten months.

Since the company made a good product its business grew, until in two years it found itself able to sell $2,000,000 worth of stuff a year — four times as much as its first year's sales, and much more than it had capital to handle.

It was faced with taking one of three lines of action. It could be satisfied with its original small scale of business — but what business men are? It could have been refinanced with some difficulty on a scale which would provide sufficient new capital. Or — and it was this that it did — it could work

out a production plan which would enable it to do a $2,000,000 business on its original capital.

Investigation showed that although fresh strawberries could not satisfactorily be kept long, they did not have to be put into finished form at once. So here is what was done. As soon as the berries were bought they were partly cooked and partly sugared. They were then stored in barrels in a refrigerated warehouse until a month or so before the shipping season. For the six or seven months they were kept in barrels, they represented a much smaller investment than under the old plan for no money was tied up in glass containers and only a part of the ultimate amount of sugar was in use. Just before the selling season the berries were removed from the barrels, the rest of the sugar added, the cooking completed and they were packed in glass.

By saving the extra investment in glass and sugar a given amount of business can be handled on an average inventory only one third as large as would be required under the old methods of production.

These instances I have given are typical of many where business needs have been financed from the inside by adopting new methods of production. If more men would look inside their own plants for the money they need, or for methods that would remove the need for money, there would be fewer business men who fail because they cannot pay their debts. And the better methods which they devise in order to avoid borrowing would not only relieve them of financial worries but would make their businesses more profitable.

However, I don't mean to say that it is never necessary for a concern to borrow. It is merely undesirable until other methods are exhausted. Besides, as I have said, the small borrower has a hard time of it. Money can usually be had by the concern that deserves it, although unusual methods may have to be resorted to.

Take for example the Metal Forming Company which makes various metal specialties used largely in the automotive industry. It started several years ago in a small plant and with scant capital, and then

went into a period of increasing sales which it had difficulty in financing. In fact it could borrow only about half as much as it needed to pay for its average inventory of raw material.

The management wisely decided to look to their suppliers and customers for help rather than to do those things which so often end in financial disaster. It had careful and absolutely trustworthy reports drawn up which showed the actual financial condition of the business. Reports of operations for several years were also prepared to show how the business had progressed, how conservatively it had been managed, and how the stockholders had plowed the earnings back into the business instead of taking them out as dividends or as salary. Reports of sales and prospective business were also made.

With these reports the management went to the principal suppliers of its raw material. With the cards face up on the table in this way it was not difficult to sell the suppliers on the idea that the Metal Forming Company was a safe risk. Very favorable terms of payment were arranged — in fact one supplier agreed to let it have

an average open account of $20,000. This was a big item in financing the concern.

The buyers of the finished product were approached in the same way. Many of them who were anxious to get as much as possible of the company's product agreed to pay for it in very much shorter time than was customary. This reduced the amount of working capital needed.

Later as the business still further expanded a mortgage of $50,000 was placed on the plant by the local bank. This was handled under the so-called " Straus Plan " by which the bonds were paid off at the rate of $5,000 a year.

At one time in its history the concern was pressed for cash just at the date when dividends on its preferred stock issue were due. In order not to hurt its credit the company did not want to pass the preferred dividends. Checks were, therefore, sent to all preferred stockholders. To the largest holders, the management wrote letters telling frankly of the condition and asking the stockholders if they would not be willing to endorse the dividend checks and send them back to the company as a loan. They all agreed and

thus the much needed money was retained in the business for a while. The holders of small amounts of stock were not asked to return the checks.

This company is now at a point where such unusual measures are no longer necessary. It is earning about 50 per cent on its capital. Its success is due to its common sense methods of financing. Had it used some of the easier but more expensive methods it would have been working under a terrific handicap.

I know of one concern that makes a practice of borrowing against raw materials, finished goods and accounts receivable. It pays an average of 26 per cent for the capital it borrows in this way. That is a fixed charge that will probably keep it in financial trouble indefinitely.

I have tried to make clear two fundamental points on finance.

First, look carefully within the business to see if needed capital can be found there, or to see if methods can be changed so that extra capital will not be needed.

Second, if capital is needed, have exhaustive and informative statements prepared.

Take these to your bankers, suppliers, and customers and by frankness sell them on the safety and desirability of giving financial help.

These methods are open to the smallest concern.

TO GET THE MOST OUT OF ADVERTISING

VII

TO GET THE MOST OUT OF ADVERTISING

MANY businesses have been boosted to great success, and a few have been ruined, by advertising. Reasoning from the instances in one of these classes it would be easy to prove that all advertising expenditures are worth while; reasoning from the other set it would not be difficult to prove that money spent for advertising is wasted.

Advertising, properly done, is a tremendous and effective force with which to build profitable sales. The trouble is that but few people, even among advertising experts, can tell whether a proposed expenditure will be effective or not. That is because advertising has not been generally subjected to measurement and is therefore generally not a practical science but a theoretical art.

When a national campaign of advertising is contemplated by a manufacturer whose goods are sold to the consumer — not direct but through the retail store — the customary procedure is to have the copy and layouts prepared by specialists who, if anyone does, should know what will be effective. They have their experience to go on backed by a somewhat indefinite theoretical knowledge of the psychology of selling. They cannot tell for sure whether the advertisements they have prepared will be effective until the money has been spent.

It is a gamble to spend anywhere from a hundred thousand to a million dollars on nothing but hope and faith. But the same man that plays for high stakes in a game he knows little about will put under bond an employee who could not conceivably get away with $10,000. And this same manufacturer buys his raw materials only after scientific tests which prove them to be the most economical and best suited for his purpose.

Do not get the idea that I think most advertisers lose when they buy advertising space. I have no doubt but that most

concerns which spend $50,000 or more a year on advertising increase their profits by so doing. My point is twofold. First, they don't know that they will get the results they want; and second, if they had some way of inexpensively pre-testing their copy and the media they choose, they would get far greater profits per advertising dollar.

It is partly this ability to test and predetermine the effect of an advertisement that has made so many concerns turn to direct-by-mail advertising. The same reason has led manufacturers to sell direct to the consumer through advertisements in magazines and newspapers. It is equally possible to test advertising that is not intended to produce orders direct but to get the buyer to purchase from the local retailer.

The method of testing direct mail advertising is simple and inexpensive. One concern of which I know has a list of 750,000 names which it regularly circularizes on its various products. Before it spends the money to mail to the entire list, it prepares two or three circular letters on the same

product and mails each to a list of 1,000 names selected from a number of different sections of the country and from both large and small towns. Each of these letters is carefully worked out. Each stresses a different appeal and each is written by a man considered to be expert.

The orders brought in by each of these letters are tabulated to show which has the greatest pulling power. Frequently the best of these circulars, each of which seems equally good, will sell from three to ten times as much as the poorest.

If the thousand test names are so selected as to make them a fair sample of the entire list, the law of averages will get to work and the orders per thousand names will be the same, within three or four per cent, when 750,000 names are circularized as when 1,000 were.

The concern in question tests every bit of mailing matter it sends out. But when it first started out it ran other tests on which it developed certain principles by which it is still guided.

For instance it tested the relative effec-

tiveness of one and two cent stamps, and found that although the two cent stamp brought in a few more orders, the extra cost of $10 a thousand left a lower net profit. It therefore sticks to the one cent stamp. That is a point worth noting — it is not alone the volume of orders, but the profit upon them that determines the best method.

In like manner this concern has tested typewritten, processed and printed letters and has found the latter to be most effective for its purpose. It has tried filling in the name of the recipient. It has tested cheap and expensive paper and whether to print a letter on both sides of the sheet. It has definite facts on which to base every phase of its advertising.

The mail order houses which use newspaper and magazine space test their copy by keying it so that all inquiries and orders can be traced to the medium that produced them.

When we try to derive correct principles to govern advertising which aims to make sales through retailers we find two methods that have been used.

The first is to ask individuals certain questions about products that have been advertised in different ways to see how much effect the advertising of others has had. Such a method was used by Cheney Brothers, silk manufacturers, before they started to advertise nationally eighteen years or so ago. They distributed questionnaires among several thousand people of various ages and in various walks of life. The following questions are typical:

1. What is a Kodak? A Ford? Bon Ami? Gold Dust? The 57 varieties?

2. What is made by Colgate? By Williams? By Pears? By Washburn-Crosby? By Fairbanks? By Heinz? Steinway?

3. Who makes Kodaks? Bon Ami? Gold Dust? Premium Hams?

4. Who uses each of the following slogans: "His master's voice"; "Hasn't scratched yet"; "He won't be happy 'til he gets it."

5. What is the trade mark of Victor Talking Machines? Heinz Pickles? Ford Motors? Pears' Soap?

When the answers to these questions

were tabulated several striking points loomed up.

1. Unless the maker's name is part of the product's name few people can tell who makes a product. This is important to the concern that markets more than a single product. Nearly everyone who answered the questionnaire knew who made Pears' Soap, Steinway Pianos and Gold Medal Flour. Few knew who made Gold Dust, Bon Ami, Kodaks, and Ivory Soap. Pears' meant soap to nearly everybody; the 57 varieties were generally connected with Heinz and with pickles; Colgate and Williams were recognized by most as soap makers.

2. Fanciful names are not as good as descriptive ones, as proved by the fact that a great many people could not tell accurately what Bon Ami, Gold Dust and Postum were.

3. Trade marks and slogans mean nothing to most consumers.

Therefore Cheney Brothers decided upon this fundamental. Tie the name of the company up with the product in so matter-of-fact a way that everyone will associate

the name of Cheney with silks and to a great extent will think of Cheney when they think of silks.

There is no doubt but that this policy has been unusually successful.

This is one way to test advertising, but after all it is not the most certain one and it gives no method to predetermine the effectiveness of a given advertisement or of a campaign.

There is only one company I know of — the International Consolidated Chemical Company — which has applied the mail-order method of testing to general advertising which is aimed to move goods through the retailers. It is generally believed that this cannot be done, but this concern does it accurately and with beneficial results on its advertising.

It makes a wide variety of cosmetics and proprietary remedies which it advertises at a cost of about $1,500,000 a year in a list of about 600 daily papers through the entire United States. While its testing methods have been applied only to newspaper advertising there is no reason why they cannot to some degree be applied to advertising in

general magazines although the cost of testing would probably be higher.

The Chemical Company uses its tests first, to find out fundamental facts on which to base its policies, and second to test each advertisement to make sure it will bring a profitable volume of business, before it launches a campaign costing from $20,000 per insertion up.

Before a test could be made it was necessary to choose a small group of papers in towns which would be typical of the entire United States. This involved the tabulating of results from each of the cities and comparing them with the total. In the final analysis three groups of eight cities each were selected. If an advertisement is inserted in all of the eight papers of one group and sells over the counters of the retailers in those cities say $5 worth — at wholesale price — of goods for every dollar of advertising, it is certain that when the same advertisement is placed in 600 papers the result will be the same. Never have the results of a nation wide insertion been more than 3 per cent off from the figures given by the test.

It was not only necessary to choose typical papers for the test, but a method had to be devised by which to determine the actual sales made by retailers as a result of the advertisement. It would not be accurate to use the sales to the retailer as the measure, for one retailer may buy on a hand to mouth basis while another buys several months' supply at one time. There are several ways in which this information can be gathered by an organization which will at once occur to anyone acquainted with retail distribution methods. The method would vary with the type of the retail store and even with the type of product.

As a result of tests carried on over a period of several years, the Chemical Company has determined some fundamentals which govern its methods. As they probably apply only to its own products, it is hardly worth while to give the exact findings. Suffice it to say that the Company now knows:

1. What size of space is most effective.
2. How often it pays to repeat an advertisement for each one of its products.

3. What the cumulative effect of advertising is.

4. How long a single insertion continues to pull.

5. What position on the page is best, and which page is best.

6. What appeal is most effective for each product.

For the day to day routine of advertising the company uses its method to test the relative effectiveness of two or three advertisements of the same product. It may prepare three advertisements of, say, tooth paste, all of which are in the judgment of the executives, and of the advertising staff, equally good. But it takes no one's judgment, except the judgment of the public, as reflected in its willingness to buy as a result of each advertisement.

So it places advertisement number 1 in the papers of group A; number 2 in group B; and number 3 in group C; and tabulates the sales in the cities of each group. Often it will find that of two apparently equally good advertisements, one will sell five times as much as the other. If the sales of the

best ones return a proper profit, it is put into all of the papers which the concern uses all over the country.

To test a single piece of copy in this way costs only 1 per cent of the cost of a broadcast insertion. When two are tested to determine which is best the cost is 2 per cent. That is a very low insurance premium to safeguard against possible losses of $20,000 or more.

So effective is this method of testing that the International Consolidated Chemical Company absolutely knows beforehand that an advertising campaign will pay. More than that — it knows within 3 per cent what sales a campaign of given cost will bring, before it spends any considerable amount of money.

In one case, which is typical of many, the concern built a business of $3,000,000 a year in two years on a new product and the business was profitable from the start. It has never had a failure since it started pretesting its copy.

What this concern has done, others can do. It may be harder or easier to build up the testing mechanism, depending on the

business. When more concerns do it, advertising will boom and more firms will be profit makers.

To say as I have that advertising can be made more effective if it is tested first, is not to say that advertising is bad. To do so would be like saying that workmen are all bad because they do not generally produce as much as they might. By using the stop watch we cease guessing at how much a workman should produce; by testing advertising we can take the guesswork out of it as well.

CHOOSING A SOUND CREDIT POLICY

VIII

CHOOSING A SOUND CREDIT POLICY

IN most concerns there is a constant battle between the credit manager and the sales department. To the credit manager the all important thing is "to get the money." To the sales department nothing counts but to get the order. Because the credit manager prides himself on keeping the credit losses below a half of one per cent, he kills many a sale that the sales department has worked hard to make, and that is often used as an alibi for failure to increase the volume of business. When this happens the chief executive usually steps in and effects a compromise which is just as bad for the business as either extreme could have been. In every business there is one best policy to pursue and that policy should be arrived at, not through conflict

and compromise but by a careful study of figures.

If a concern sells its product on a narrow margin of gross profit, and especially if the product is a high priced one, a tight credit policy is essential; for a single sale that is not paid for may wipe out a year's profit. But if the product carries a wide margin of profit, and particularly if the average sale runs into only small figures, a looser standard of extending credit may pay. All of the doubtful credit risks are not liable to go bad and the big profit on the increased sales will absorb the losses and leave an extra profit.

To show how the two policies of extending credit may properly exist even in different branches of the same industry, consider the jeweler. An importer of diamonds must be rigid in choosing whom he will trust. A million dollars' worth of diamonds can be carried in the vest pocket and a single sale of that amount is commonplace. The importer can afford to make sales of such magnitude on a margin of profit as little as one per cent. But he can't afford to lose a cent of the selling price. To sell $100,-

000 worth of stones and fail to get the money for them would wipe out the profit on sales of $10,000,000.

The manufacturing jeweler however is in a different position. He makes up the stones with fancy settings and sells them at a gross profit of say 50 per cent, of which probably 30 per cent of the selling price is net profit. If a liberal policy of extending credit will greatly expand his sales and if he can count on collecting most of the new accounts, his net profits will be greatly increased. Even after writing off the losses he will be in a better position than he would be under a tight policy. Later I shall analyze the business of a real concern and show how that works out. First however, I want to touch on a few points that will be of value to the concern which must control its credits closely.

The methods of securing information about the paying habits and ability of a new customer are well understood so I shall only list them here. They are the mercantile agencies such as Dun and Bradstreet; local agencies of the same type; associations of credit men; trade association credit

bureaus; banks; other suppliers of the applicant; collection agencies; and personal references. Some credit men also put a good deal of confidence in their personal judgment of the applicant's character, ability, habits and knowledge of his business.

These are all good, but in my opinion it is most important that every credit man should have the ability to analyze and understand the financial statements of the applicant. Many favorable things may lie under the surface of an apparently poor report, while damaging indications may be buried in a perfectly truthful report that looks good. The credit man must, of course, have an intimate knowledge of the customs in the trade he is serving, for a report that would be good in one industry might indicate a weak condition if submitted by a business man in another. For example, a flour mill having a ratio of 2 to 1 between its quick assets and quick liabilities is in excellent shape; while conservative business requires that a retail jeweler have at least five times as much quick assets as quick liabilities.

The reports commonly required of the applicant for credit are the balance sheet or statement of condition and the profit and loss or operating statement.

On the statement of condition, the credit man commonly passes by the fixed assets such as plant and equipment, for these assets can only be turned into money if the business liquidates. The credit man is not interested in selling to a concern that will have to go out of business to pay its bills. He wants to sell to a going concern that will pay its bills out of its current business. Therefore he looks to the liquid or quick assets, and to the quick liabilities, with a glance out of the corner of his eye at all other liabilities.

The current asset *cash* may not be what it seems. Sometimes banks require a concern to deposit money, for which they issue a certificate of deposit to cover possible overdrafts. The concern can take the certificate to another bank and borrow its entire face value. Make sure that such items are not included in cash. I. O. U.'s from employees and miscellaneous paid bills are not cash and should not be included.

If the notes receivable are too small for the business being done, ask whether any of them have been rediscounted. This is perfectly legitimate but if the maker of the note does not meet it at maturity, the company is liable and its financial condition will be weakened, perhaps seriously, by the loss.

Notes from stockholders, officers and employees are not quick assets and should be listed separately. Find out if any are included under notes receivable.

Find out of what accounts receivable consist. Goods sold on consignment, and items due from stockholders, officers and employees should be eliminated. Find out whether any accounts receivable have been sold or pledged, especially if the item is small compared with the amount of sales.

The inventory is a burying ground of bad practice. Find out how it was priced. It should be priced at cost or market whichever is lowest. Make sure that it has been checked, preferably by outside accountants, for quantity, quality, price, footings and extensions.

Turn now to the liabilities. Accounts payable are important and easy to juggle. I

audited one company which never entered an account as payable until after it had been paid. It is easy to drop a bill into the nearest waste basket without entering it on the books and so keep the apparent size of the accounts payable item low. A certified audit in which all of the usual suppliers have been corresponded with is the only sure way to determine the accuracy of this item.

All notes payable should be scheduled in detail so that it will be plain who holds them. Generally it is poor practice to give notes for merchandise, for it indicates a weak cash position and is an infallible sign that the concern does not discount its bills.

Some concerns report an item, "notes payable to bankers." This is a good sign, especially if the accounts payable item is small, for it indicates that the concern follows the sound business practice of borrowing to take advantage of the cash discounts. It also indicates that the banks have confidence in the company.

If any of the notes payable are covered by collateral, that fact should be noted, together with the amount and kind of collat-

eral. The credit man is entitled to know what strings are tied to the assets.

See if unpaid taxes and accrued payrolls appear. They are first liens against the business and in case of trouble have to be paid first, with the result that there may be nothing left for the unsecured creditors.

With a watchful eye on these points, with full knowledge of business practices in that particular industry and with outside credit information, a credit man should seldom err in extending credit. These means make it possible, barring a financial catastrophe, to make sure that all extensions of credit will be practically 100 per cent good. In some businesses that is essential.

Now, however, I shall discuss a business typical of those that can benefit by a less stringent credit policy. It is a concern that sells a product in packages through retailers who have exclusive right to sell the product in their towns. The business is a highly competitive one so that even these exclusive agents are constantly solicited by a half dozen competitors to get them to change their allegiance. The product carries a wide

gross margin of profit. Fifty-eight per cent of the selling price constitutes the entire manufacturing cost. Thus the gross profit is 42 per cent of the sales.

The credit policy was unusually tight. Fully 25 per cent of the new accounts were turned down because they were not gilt edged. If a dealer fell behind in meeting his bills, his shipments were stopped or he was sold on a cash basis only. If he had turned crooked such a policy would be defensible, but usually a slowing up was due to local conditions. Many of the retailers were located in small farming communities and sold largely to farmers. When crops were poor the farmers might not pay up for a year, so the retailer was not to blame. This was especially true in the cotton belt and in the wheat districts. It is a common experience for farmers to require long time to pay their bills, yet is most unusual for a farmer never to pay. To cut off such dealers' supplies of goods was shortsighted, for when the manufacturer refused to ship, the dealer most always was offended and opened an account with another manufacturer. Nearly 25 per

cent of the dealers left the fold for this reason each year.

They had, of course, to be replaced. But it cost this concern, on the average, $850 in sales expense to open a new account. Only $200 comes back in the form of profits the first year. To lose an agent costs the gross profits on sales of $2,000 and the net profits on sales of nearly $7,000. Such figures as these emphasized the fact that to lose a dealer because he became slow in paying a small account was shortsighted management.

In one year this concern lost more than one hundred dealers directly or indirectly because of poor credit. About half of these were unrated; the rest were rated G3½ or better. One of them was actually rated AA 1. They had to be replaced at a total cost of approximately $85,000. Most of them if given time, would have paid their bills and continued to be profitable customers.

A study of the new business refused showed that if the best rated half of it were taken it was nearly certain that the credit loss on this extra 12½ per cent of new busi-

ness would be not more than 20 per cent. In other words $4 out of every $5 of increased sales would be collectible. Here is how that would affect the profits.

	Sales	Cost of Sales	Gross Profit	Selling Expense	Profit	Increased Profit
Rigid credit ...	$4,000,000	$2,320,000	$1,680,000	$1,200,000	$480,000	
Proper credit restrictions ..	$4,500,000	$2,610,000	$1,890,000	$1,300,000	$590,000	$110,000

Note that for the sake of conservatism, we have assumed that it would cost $100,000 more to sell an extra half million dollars' worth of goods, but that even so the net profit would increase $110,000. Actually there should be no extra selling expense for the extra sales are those that under the old plan were refused. In fact they are only a half of those refused, and the most desirable half at that.

On the other hand it would be dangerous for any concern to become so enamoured of increased sales and greater profits that it blindly lowers the credit bars and takes all business that comes to it. No concern can do that. And it is entirely proper for the concern that sells on an unusually close

margin to be strict, even to refuse all but those customers having the very best ratings.

If an accurate study of costs shows that the margin is wide and that a considerable amount of business is being refused from concerns that would probably pay, a looser but still controlled policy may be best.

To try to remove all of the risk from credits may result in bringing other risks such as the risk of losing profitable business.

ELIMINATING THE RISK OF STRIKES

IX

ELIMINATING THE RISK OF STRIKES

THE emphasized objects of practically every strike are wages and hours. Yet I doubt if they are usually the real points of difference. They have merely become labor's traditional symbols to represent any dissatisfaction which the worker feels toward his job.

The practice of my profession has given me the opportunity to study rather intimately the conditions in more than a hundred plants where labor relations were strained — although they had not always reached the breaking point. Also, I have studied many plants where the relations between men and management had always been amicable.

I have reached, as a result of my findings, some quite definite conclusions as to what

causes labor unrest and what makes for good labor conditions.

I find but few concerns where wages, measured by the rate per hour, are so low as to cause dissatisfaction. But other aspects of wages are not always so good. Layoffs caused by seasonal operation and other conditions often reduce the annual earnings of workers to a point where even a high hourly rate is insufficient to provide a decent living wage. This is undoubtedly the most common cause of complaint.

Next in frequency is the inequality of earnings within a plant caused by poorly set piece rates. Another common cause of dissatisfaction is failure to guarantee to the workers that piece rates once set will not be cut merely because a skilled and conscientious worker earns what the employer is pleased to term "more than any workman is worth."

Arbitrary dictation by the employer also underlies much discontent. The worker feels that he should have some voice in determining the shop conditions, and, failing to be considered, voices his vague displeasure by striking for higher wages when what he

really wants is recognition of the dignity of labor.

The garment industry, especially in New York, is notorious for its seasonal production. Although certain workers earn as high as $80 a week they are in reality poorly paid because they seldom are employed more than thirty to thirty-five weeks out of the year. Yet there are but few lines of business which cannot, if they will try, all but eliminate seasonal shutdowns. The ways to do it are as different as the concerns affected.

Take the H. B. Rosenthal-Ettlinger Company as an instance. It achieved practically uniform year-round production by simplifying its lines and concentrating on a single product. Formerly it made a complete line of boys' suits, overcoats, odd pants, children's suits, young men's clothes and mackinaw jackets. There were sixty models involved.

It discontinued all of those lines except boys' suits which it makes in eight models. As a result it can safely manufacture to stock during the usual dull selling seasons, and so keep its employees nearly always employed. Formerly it could not afford to

start manufacturing until the actual orders came in.

Whereas the Company used to operate for thirty weeks or so each year and then shut practically down, it now operates at 100 per cent of capacity for thirty-five weeks a year, and never falls below 90 per cent of capacity for the rest of the year. Its workers are well satisfied with the wage scale because they receive wages the year round — just as they have to eat.

Procter and Gamble when it marketed through jobbers had seasonal production forced upon it by the jobber's methods of ordering in large quantities at certain seasons and then shutting off purchases entirely at other times. After adopting the policy of selling directly to the retailer, the concern found that it could sell, and produce, its products almost uniformly throughout the year. As a result it has been able to guarantee forty-eight weeks' full-time employment to its workers every year. This enables the workers to count on definite yearly earnings and so contributes to contentment and satisfaction with the job.

When piece rates are set inaccurately,

either because they were set by guess or by an unskilled time-study man, workers will become dissatisfied with the low earnings or the undue strain imposed or if, as sometimes happens, the rates are too high, they will restrict production for fear that the rates will be cut. I often find acute dissatisfaction in a shop where the only cause is inequitable rates.

For example, in one shop which it would be impolite to name, a worker would one day find himself performing his operation on a piece, the rate for which was set much too low. By dint of merciless strain he could perhaps earn as much as $4 a day. The next day, however, he would receive a lot of parts on which he knew the rate to be too high. With no more than ordinary effort he could make $15 that day, but he intentionally held his production at a pace which would earn him only $7, the maximum which the owners of that shop felt a worker was worth. Not that they would have refused to pay him his $15 if he had earned it, but they would at once have cut the rate to a point where $4 or $5 a day would have been the top earnings of a man working on the part.

Correct piece rates can only be set when the production of the average good worker has been scientifically determined. Then, considering the daily rates of wages usual for such work in that neighborhood, the piece rate is set at a price which will enable the average worker to make the usual daily earning and will let the unusually good man make 20 per cent to 30 per cent more than the going wage. Furthermore, if the rates for all parts are correctly set a man will be able to make a proper wage no matter on which part he is called upon to work. There will be no "soft jobs." Neither will there be "tough" ones. Nothing conduces to dissatisfaction more potently than for workmen on a tough job to see the man at the next bench make higher wages with less effort.

I have already touched on the misfortunes that follow the cutting of a rate when a workman makes too high earnings on it. Nothing is more destructive of shop morale. When the management persistently refuses to abide by the rates it has set the result is usually a strike, or at least a demonstration against all piece rates, and the insistence by

the men that piece work be abolished and straight day wages be adopted.

The only safe course is to set rates on the basis of time studies which the management is confident are correct and equitable. These rates should be guaranteed against cuts for a period of six months or a year, when they may be revised upward or downward in accordance with the movement of wages or of the cost of living.

An exception may be made to the guarantee in the event that an operation is changed to make greater production possible. This does not imply that the rate is cut. The old operation is really discontinued and a new one takes its place for which a new rate must be set.

It has been recognized in recent years that much labor trouble is due to the fact that workers resent having rules and conditions of work thrust upon them arbitrarily by the management. To offset this feeling, experiments have been made with various forms and degrees of industrial democracy, workmen's committees and workmen's representation. Some of these have succeeded admirably, others have failed miserably. I

shall list the good and bad methods that determine the success or failure of such plans, basing my conclusions upon the studies which I have made of a large number of cases.

1. It does not pay to have the plan too elaborate and formal. The purpose is to give the workers a chance to tell their opinions and to have a voice in those affairs which affect them, not to stage a pageant of government. Plans which are installed full-blown in all of their elaborateness are not usually successful. It is better to start informally with a committee on, say, wages. Another committee may deal with such problem as inspection or quality of work. Later it may seem well to co-ordinate these committees under a congress of the workers. As the work of the committees expands, it may be necessary to add a senate and even a cabinet to the organization. But this should be a gradual growth so that all employees will understand the purpose of each branch of the government.

2. Unless the management acts in good faith, the plan will fail. Don't tell the workmen that they are running the machinery of

industrial democracy and then appropriate the old dictatorial power to the management.

If the plan involves some method of financial reward for reducing costs, such as an economy bonus, pay the bonus in good faith. I know of several such plans which failed — all for the same reason.

In each case the management said in effect, " Every six months we will accurately determine by means of our cost system, what economies have been effected by your efforts, and as a reward will pay you a half of that saving."

But at the end of the period an entirely different method was followed. The executives actually met behind closed doors and decided how little the foolish workmen would be satisfied with. They did not usually consult their costs, for such men seldom have accurate cost methods. After six months more they again met and decided to disburse a still smaller sum. Neither time did the bonus have any bearing on the value of the economies introduced. It was as likely to be too large as too small.

By this time the workers smelled a mouse.

Sometimes they would ask to see the books — a privilege that had originally been accorded them, but which it was a breach of etiquette to demand. The owners thereupon discontinued the plan, convinced that all forms of employee representation were failures.

I could cite specific examples to show how each of these faults of employee relationship have been cured or avoided in individual plants. Instead I intend to describe the methods used jointly by the garment manufacturers of Cleveland, for all of the faults existed in that industry — and all of them were eliminated. The instance is peculiarly striking for it occurred in an industry which normally suffers from all the evils of management — especially those having to do with labor.

The Cleveland Garment Manufacturers Association consists of a large number of both large and small manufacturers. Conditions had long been strained between its members and the International Ladies Garment Workers Union — a union noted for its radical tendencies. Open breaches oc-

curred frequently — more than once blood had been shed.

The union held out for the payment of a flat weekly wage regardless of how much a worker turned out. Their experience had antagonized them against piece work. The manufacturers were just as strong for a method that would reward the workers for what they produced.

My organization was called in by both sides to devise a method that would embrace both piece work and a guaranteed weekly wage.

The starting point was to time-study every elemental operation that is involved in making all kinds and styles of women's garments. These times — which in effect are standards of production — were submitted to a committee made up of five members named by the union and five by the manufacturers. Our engineer was ex-officio chairman. This committee's duties were to install and administer the wage standards.

In every shop there was a committee on standards appointed by the union. To this committee were submitted, for approval or

rejection, the standards set by the engineers for that shop. If a shop committee or the management rejected a standard it was referred to the engineer in charge of the joint committee for decision.

These standards were so set that any workman could make as much when performing his particular operation on one garment as on another. Note that an informal committee plan was adopted to give the workers an effective voice in deciding matters of supreme importance to them.

Periodically a basic weekly rate is determined " after a thorough investigation," as the agreement says, " of all ascertainable facts, with due regard to the public interest, fair and equitable wages conforming to American standards, and to the progress and prosperity of the industry."

At the end of each season, each worker's efficiency is determined by the ratio which his production for that season bears to the standards. If he was between 90 per cent and 100 per cent efficient he received a weekly wage of 5 per cent above the men's minimum wages. A sliding scale was instituted so that a man who produced 141 per cent or

more above the standard was paid 40 per cent above the minimum. A minimum wage and a different scale for women, operated in the same way.

It was agreed that the industry is obligated to provide a minimum period of employment of forty-one weeks each year; or failing, to compensate the workers for the lack of it.

No worker is paid for unemployed time until he has been idle more than eleven weeks in a year. The worker receives two-thirds of his minimum rate for any part of the forty-one weeks in which he is idle. These payments come from a fund made up by the manufacturers by payments of seven and one-half per cent of the weekly payroll.

Here you have a method by which to eliminate all of the common causes of labor disputes. It was done under difficult conditions. In a single factory where labor is not strongly organized it is much easier to do than in an entire industry dealing with a powerful union.

Any concern can eliminate the risk of strikes just as the Cleveland garment industry did if it will:

1. Set fair rates and guarantee them for a period.

2. Give the employees a voice in those things that concern them.

3. Guarantee a minimum weekly wage.

4. Guarantee a minimum period of employment each year.

MAKING SURE OF LOW PRODUCTION COSTS

X

MAKING SURE OF LOW PRODUCTION COSTS

HIDDEN losses in manufacturing and an insufficient volume of sales are both potent causes of business failure. They may be caused by the same fault — inefficiency in the factory. It is readily apparent, if 1,000 men do only the work of 500, that the extra cost may cause losses which will ultimately wipe out the capital. Inefficiencies of manufacturing may so add to the necessary selling price of the product that more efficient competitors get the bulk of the business.

Many manufacturers will readily admit that workmen won't work and that costs are high because wages are too high, but not many of them will admit that they themselves are to blame for many of the excessively high costs. Yet Hoover's Committee for the Investigation of Waste in Industry

which studied conditions in most of the principal industries laid much of the blame for inefficiency at the door of management.

Many text books tell in detail how to spot and eliminate such wastes. I intend to cite typical methods that have been used by progressive concerns, most of them clients of mine, to indicate the kinds of hidden wastes that commonly exist in factories and to show how readily they may be removed.

Broadly, there are three ways in which inefficiencies may be discovered. First there is what might be called the " observational method," by which an engineer or foreman walks leisurely through the plant watching how things are done. Because this method can catch only the most obvious and glaring faults it will be passed by. It is neither thorough nor scientific.

The second method is to time-study every operation, man and machine. By analyzing the time taken for each movement and by studying to find the best and quickest way to perform each operation, the many little inefficiencies will surely be brought to light, so that they can be corrected. This is a certain and scientific method.

The third plan is to have in operation a cost finding method which month by month shows the variations in cost of each operation or department. Then if a cost rises, it is promptly brought to the eye of an executive, who, if he is on his job, will investigate to find out why. This method is good, provided that the standard or ideal costs, with which the actual performances are compared, are based on the best known practice.

Here are a few instances to indicate how time study of operations shows how to reduce costs or to increase production without increasing the cost.

A few years ago the Strathmore Paper Company needed 25 per cent more paper making capacity in order to fill the orders it could easily get. Since the plant was already unusually efficient it seemed as though the only solution was to buy new equipment. First, however, the executives made a close study of the existing equipment and its operation.

A paper machine is of necessity not able to operate continuously for twenty-four hours a day. It is shut down when paper breaks, for repairs to the machine, and when

it is being shifted from making one kind of paper to another. The study suggested that if these delays could be reduced greatly the needed production would be achieved. More care was used in scheduling the kind of paper to be made so that runs of a single kind would be longer and there would be fewer kinds run. A bonus was offered to the workmen for using care to keep at a minimum the shutdowns due to broken paper and for repairs. The 25 per cent extra production was thus achieved with no extra equipment and at an insignificantly increased cost.

Several times during the past ten years the Strathmore Paper Company has needed additional production. Each time it has carefully studied the existing methods and improved them, with the result that to-day its paper machines are turning out twice as much paper every hour as they were ten years ago.

That is an excellent example of the correct attitude. Most men feel that when they have once improved a process no further improvements are possible. It is a risky assumption to make.

Time-studies in the factory of the C. G. Spring Bumper Company showed the way to many betterments which, taken together, greatly reduced the cost of manufacturing.

For instance, installing assembly benches especially designed to make the assembler's work easier and more convenient practically doubled the number of assemblies turned out per hour. By the old methods the best production attained was 45 assemblies per hour while with the improved facilities the same men turned out from 75 to 89 per hour.

In another assembly operation the production was increased 19 per cent merely by having the men tighten a small bolt by hand rather than with a clumsy wrench.

Setting accurate standards of production based on time-study and offering a bonus for production brought the output of a forging operation up to 273 per hour although the average production had formerly been only 135 per hour. Properly set piece rates in this plant increased the production of nearly every operation. Some of the increases on different operations were 45 per cent, 48 per cent, 58 per cent, 78 per cent, etc.

A few years ago we were called on by the Ritter Dental Manufacturing Company which makes various machines used by dentists, to report on the methods they had put into effect to increase production and reduce costs.

We found that the studies they had made had resulted in increasing their production 25 per cent to 35 per cent while the force of workmen had been reduced to 600 instead of 875 which they had formerly employed. This resulted in a net saving of about $150,000 the first year and considerably more in subsequent years. As a result the company was not forced to advance the selling price of its product in proportion to the increase in the cost of labor and material.

These are typical of the cost reductions that are possible in nearly every plant. When costs are reduced, profits increase on every article sold, and the ability to reduce selling prices usually results in increased sales.

As an example of how an accurate knowledge of costs points the way to economies consider the Potter Knitting Company. This concern has been making a complete

line of men's, women's, children's, and babies' underwear. Its profits were not satisfactory to the owners, yet competition made it impossible to raise prices. The only solution was, therefore, to reduce costs. But a study of the plant showed that there were no gross inefficiencies that could be eliminated.

The executives, therefore, turned to their cost system in hope that it would show where and how costs could be reduced. It did.

It showed that a large part of the material spoilage and production of seconds which amounted to 6 per cent of the total production was caused by the necessity of changing the knitting machines frequently from one type of product to another.

Analysis of the various items of overhead expense and labor cost showed many places where leaks occurred due to the fact that so many varieties of products were being made.

The entire study of costs showed that if the mill could turn out but a single type of garment great economies would be effected. So the concern decided to discontinue making everything but babies' shirts.

The results as prophesied by the cost sys-

tem were borne out. The machines are now kept busy almost continuously on a single kind of cloth. That reduces the idle time of machines enough to give 33⅓ per cent more production with the same equipment. The cost of labor per garment is now about 10 per cent less than before. The overhead expense per garment has dropped 5 per cent. In one department four men now do the work that required seven.

As a result of these efficiencies, the Potter Knitting Company was able to reduce its selling prices 12 per cent and still make more money than before. Without a good cost system it is doubtful if they would have known of the possibilities of making such betterments.

A hat manufacturer, E. V. Connett & Company, also used its knowledge of costs to reduce costs.

For instance, a charge of $910 for a man to do trucking appeared too much in a plant of that size. The possibility of installing an automatic conveyor to do his work was looked into with the result that one was installed at a total cost of about half of the amount paid the trucker in wages for one

year. The total operating cost was only $100 a year — a saving of more than $800 a year.

A study of such a relatively unimportant expense as that for electric lamp bulbs, showed that a great many were stolen by employees. By investing a small sum in locks to prevent pilfering several hundred dollars a year were saved.

In one month, the cost reports showed a big increase in the use of certain material, in spite of the fact that less should have been used, since the production of hats had fallen off that month. Investigation showed that, in order to make a saving on first cost, the purchasing agent had bought an inferior quality which would not stand up. Cost systems often show that low first cost is often ultimately expensive.

The expense of making repairs about the plant was found to run as high as $1500 a month, which was out of all proportion to the size of the plant. The master mechanic was called on for an explanation. He said that so much emphasis was put on production that foremen would not permit machines to be shut down long enough to enable a thorough repair job to be done. As a re-

sult patchwork repairs were the rule and the job soon had to be done over.

Instructions were issued that all repair jobs be done thoroughly with the result that repair expense is falling off several hundred dollars a month.

In the manufacture of dress goods and cloth the Walther Manufacturing Company used its cost system to point out possible economies.

One of the most important was the discovery that a staple product which had always been considered profitable, was sold at a loss. It was discontinued.

In the finishing department large quantities of soap, oils and other chemicals are used. They are supposed to be mixed by formula so that it is easy to determine how much of these expensive commodities should be used per yard of cloth. The cost figures showed that far too much was being consumed. An investigation resulted which showed that no attention was paid to the formulas but that the foreman mixed his chemicals by guess. No special amount of water was used for scouring. If more than enough water was drawn into the tubs, more

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soap had to be added to get the proper solution.

By insisting that proper proportions of these supplies be measured out a saving of more than $1,000 a month was effected.

These instances of savings are typical — not unusual. Taking industry as a whole, only eliminating two or three of the most highly efficient plants, I have no hesitancy in saying that intelligent study would show ways to reduce the cost of most products as much as 40 per cent.

MAKING SURE YOUR PRICES ARE RIGHT

XI

MAKING SURE YOUR PRICES ARE RIGHT

AT what figure to set the selling price of a product is one of the most complex problems facing the manufacturer or the retailer. If a price policy is adopted by guesswork or without thoughtful study, a risk is involved which may easily ruin a concern that should be a success.

There are two legitimate policies which can be chosen. One is to set a price higher than is customary for similar products in order to give the impression that this one is above the usual in quality, and to attract the patronage of that small class of buyers who value a thing in proportion to its cost.

The other policy is to sell at a price lower than is usual for products of like quality. This method involves considerable business skill, for the margin of profits is low and every expense must be watched carefully

or the entire pot of profits may drain off through a slight leak. The advantage of this method is that a low price greatly broadens the market and stabilizes it.

Unfortunately only relatively few concerns adopt either of these policies. Instead they slip into a compromise policy, if the vacillating course they follow can properly be called a "policy." Their prices are high or low depending upon the astuteness of buyers and the desperateness of their competitors.

The automobile industry provides examples of concerns which follow the high price and the low price policy. Ford, of course, is an example of the latter. Packard, Rolls Royce and a half dozen others thrive on comparatively high prices.

That to many high price has an appeal is certain. When Buick got out his first car he set a price on it which, while it was several hundred dollars under the usual price for that grade of car, gave him a reasonable profit. As I recall it, the price was around $1300.

He and his assistants demonstrated the car in several cities. Its performance was

marvelous for those days. Yet even though the car was an unusual value, Buick's best salesmen could not sell a single car even after making astounding demonstrations to prospects. A little gumshoe work among the unsold prospects brought to light the reason. Each one felt that at so low a price, a really good and lasting car could not be produced. They were sure that there was a nigger in the woodpile somewhere. True they could not see him or even detect any suspicious bulges in the woodpile — but they simply would not buy.

Thereupon Buick raised the price of the car about 50 per cent. At once orders poured in. Wiseacres could understand that such a car was worth around $2,000 and they had no hesitancy in paying the price. Such instances are common in many industries. The custom tailor finds that suits at from $125 to $250 appeal to hundreds of people. Manufacturers like Hirsh Wickwire and Hart, Schaffner and Marx, sell hundreds of thousands at prices from $25 to $45. Macy's store in New York and the Namm store in Brooklyn undersell nearly all of their competitors on the same prod-

ucts. Yet there are big stores and specialty shops on Fifth Avenue which do a large and profitable business.

My observation, however, convinces me that the " higher than market price " policy is a risky one for most concerns. They are always the ones which feel a business depression first and most acutely and for a longer time. No matter how severe a depression may be there is always considerable buying done by consumers. It is said that in a severe depression the total volume of business for the country as a whole is off only 15 per cent. But that drop is not uniform for all concerns. Those which cater to the high priced trade suffer far more than that. The consumer turns then to lower priced commodities with the result that concerns featuring low prices often do not feel the slump at all.

It is my conviction that for most men the sure way to profits is to make or to resell a commodity of proper quality at as low a price as good methods permit. Let me cite the example of a concern in the automotive industry.

For many years this manufacturer made

differentials, gears, transmissions, clutches and controls. He had developed a design for each of these products which he considered to be the best. His salesmen called upon automobile manufacturers and tried to sell them the standard design for their cars. Practically always the buyer's engineers insisted that slight changes be made from the standard design. One would want a casing a fraction of an inch thicker; another would want the bolt holes spaced slightly differently. To get the business these changes would be made. As a result there would be going through the plant at one time 10,000 transmissions of one style, 25,000 a little different, and 20,000 of another style which differed from both. The same conditions existed for each of the other items which the plant turned out.

As a result of such diversification the manufacturing costs were so high that the average selling price of the transmissions had to be placed at about $85 each. Inasmuch as all the other concerns making transmissions were in the same boat, their prices all hovered at about the same figure.

In order to see whether such acute com-

petition could not be avoided this manufacturer made a study of his manufacturing to see how costs would be affected if he could turn his entire productive capacity over to a single style of transmissions, allow no deviations and make none of the other lines which he had always made. He found that under such ideal conditions, sufficient economies would result to enable him to sell his standard transmissions at $35 each — a reduction of 50 per cent.

He went to his customers with that price. Nearly everyone agreed that $50 extra on a $35 transmission was too much to pay for the whim of a designer. Where necessary the car manufacturers changed the designs of their cars so that the standard transmission could be used. As a result the manufacturer has his shop full of work which can be run through with no changes at a minimum cost, and he is making more money than ever before.

It is not always necessary to carry standardization to such an extreme degree as this. The point is that it pays to study every phase of production to see how costs can be

reduced. As the costs come down reflect a considerable part of the saving in a lower selling price. That not only gives a big edge on competition but it enlarges the market, for it is an economic fact that the lower the price of an article goes, the more people there are who can afford to buy it.

While undoubtedly this plan of working for lower costs is the safest policy on which to build a business, I realize that it may be a long time before it is generally followed. Most men are prone to stick to that nondescript plan by which price is a matter of expediency. There are, however, certain things they can do to substitute knowledge for guesswork in setting their prices and by that means eliminate some serious risks which they otherwise run.

The secret of course is to operate a cost system which shows accurately the cost of each style and kind of product made. Ordinarily if a concern's operations, taken as a whole, show a profit, the management assumes that each item is profitable. That is seldom actually true. Typical of many, is the case of one of my clients who installed a

cost system. He made fourteen styles of product and made in average years about $200,000 net profit.

When he analyzed his costs by styles he found that eight styles were sold at a loss, two were sold at about cost and the other four carried so wide a margin of profit that they made up the losses and left a net profit. Being a shrewd business man my client stopped making the unprofitable lines and concentrated on the profitable ones. His gross sales dropped about 40 per cent the first year but his net profit on them was $400,000 — just double.

Such occurrences are common. I have in another chapter of this series mentioned the Walther Manufacturing Company which makes several hundred kinds of woolen cloth. Analysis of their costs by kind of cloth showed them that one kind was being made at a loss. They had suspected that it carried only a small margin, but were satisfied, for they sold large quantities of it at a low selling cost. When they learned the truth they discontinued the item entirely.

In the same way E. V. Connett & Company discovered that they were losing money

on their two lowest priced lines of hats. They had thought, also, that dark colored hats cost more to make than the light colored ones. The reverse was found to be true, which resulted in a revised price policy.

There is, of course, no fault to find with the policy of selling a leader at a slight loss if it carries with it a sufficient volume of profitable business. But when the loss is guessed at, it is usually much larger than is believed. The thing to do is to *know*.

A properly set up cost system shows vividly the high cost of having a plant operating at less than capacity. Most men realize that an idle plant is expensive and many offer price concessions during slack seasons or during depressions in order to attract business which, while not paying a profit, will return all or at least a part of the overhead expense.

Here again I can cite the case of a large hosiery mill which advertises a well known brand and which has national distribution.

During the usual selling seasons it maintains its price and sells only its branded and advertised hosiery. But when, as happens twice each year, the jobbers cease to buy, it

sells the same grade of hosiery unbranded to other jobbers at a low price. In fact the price is so low that it provides no profit but it does enable the plant to operate at full capacity and break even during the dull months. The point is that this concern bases its off season price on definite knowledge provided by its cost system. It knows how far it can afford to cut prices and where it must stop.

Sometimes in a particularly bad season it pays to sell at a price which will get back the cost of the labor and material plus a part of the overhead expense. If the price is set properly the loss will be less than it would be if the plant were shut down. But such a price can never be set accurately by guess. Overhead is an exceedingly complicated expense which can only be analyzed by a modern cost finding.

The evils of poor price setting, great as they are in a single concern, are infinitely worse when an entire industry sets its prices by guesswork. In one such industry which I investigated the procedure was somewhat like this:

Manufacturer " A " would estimate that

a certain article cost him $8.00 and quote on that basis. Manufacturer " B " would hear of this quotation and immediately figure that if it cost " A " $8.00 with his big office force, he (B) could make it for $7.75. Then " C " would decide that if " B " could make it for $7.75 with the big salaries " B " paid his executives, he (C) could make it for $7.50. Then " D " conceived that he could make it for $7.00 because " C " had such a large advertising expense. And finally, " E," who had a small factory and acted as superintendent and foreman of all departments, became sure that he could make it for about $6.80. Manufacturer " A," who originally figured his cost at $8.00, now believed that with his production and efficiently run factory he could turn them out at $6.50 if " E " could make them at $6.80.

Needless to say, under such circumstances no one in the industry made money. Not one of them knew their costs and so had no basis on which to set selling prices except to underbid every one else.

Ultimately this industry decided to install in all plants cost systems which would oper-

ate on uniform principles. There was no agreement on so called "uniform" costs. If anyone knew he had an advantage in costs he was free to use that advantage intelligently. In fact if anyone wanted to sell at a loss, he was free to do so. The point is that if he did, he knew it, and he knew how much he was losing.

The industry is now a profitable one.

After all there is only one thing to consider when choosing a price policy. Whether you decide to charge a high price, a low one or a varying one to meet competition and business conditions, *know* what you are doing. That means, know your costs beyond the shadow of a doubt.

THE SURE WAY TO PROFITS

XII

THE SURE WAY TO PROFITS

IN the preceding chapters I have shown how successful concerns have taken most of the risk out of each of the various activities that go to make up business. I have shown the methods that they have used to take the guesswork out of buying and selling, out of advertising, finance, credits, production and labor relationships.

Thinking back over the instances cited it must become apparent that most business risks arise from the common tendency to work in the dark, and without an intelligent plan. Those concerns which have the most stable success are those which carefully analyze their problems in the light of the most modern methods, and which then plan their work carefully ahead. To work without a plan and to solve no problems until the problems arise is risky. Knowledge of the best methods, understanding of what busi-

ness really is and willingness to plan ahead enable an executive to avoid most of the dangerous risks.

It is not hard to boil down all of the principles which I have stressed into a single rule by which any detail method can be judged. It is merely the old adage that "he who serves best, profits most." That is not altruism. I am opposed to altruists in business for they commonly are inclined to tamper with the economic machinery and so put the whole process out of commission. I am not referring solely to socialists, trade union leaders and Bolshevists. Some of the most dangerous tricksters with business machinery are capitalists who, having made their pile in business, are not content to retire, but insist on using the business as a plaything or as a tool for uplifting humanity. Commonly they feel that they must change human nature over night.

No, it is not altruists that we want in business, nor is it altruism to say that a business will thrive and grow and make money in proportion to the service that it renders. Look around and you will find that those concerns which have the shortest lives are

those which try to sell something which renders no real service to the buyer, or those which try to grab the passing dollar without giving something in return.

Whether you are making a product or selling it; whether you are a banker who provides the funds that business needs or whether you sell insurance, legal advice or engineering service, you will prosper as you serve some need. You can charge in proportion to the service that you render. If you make or sell a good toothpaste that people need you can charge for your service a few cents a tube. If you are an unusually capable lawyer or engineer you will have no trouble in charging a thousand dollars a day or more for the service you render.

But if you are constantly looking out to buy something cheap on the theory that while you hold it outside influences will so increase the need for it that you can resell it at a profit, you are adding no element of service. Although you will occasionally be lucky and make money you will surely, sometime, be unlucky. Speculators of that type nearly always lose more in the end than they have made. That is because business is service;

if a concern does not fill a place in the economic chain of service it is not really in business and it will not long survive.

But it is not enough merely to serve. This conception of business is becoming so general that tremendous competition is arising among well managed concerns to see which can serve best. It is therefore necessary for a concern to be so organized that it can serve superlatively well. It must also be able to serve cheaply.

To serve well it must serve more than merely its customers. It must serve them, of course, but also it must serve those from whom it buys; it must serve its employees; it must serve its stockholders; and it must serve the general public.

To serve all of these factors, some of which may seem to the superficial observer to have antagonistic interests, is a job for a big man — a man who can study as well as perform.

I have tried to impress one fact above all others upon business men — that any business is a complex piece of machinery. No single cog or lever or pulley is more important than another. They are all necessary and if the machine is to work, each part

must be nicely adjusted to operate with every other one. The entire business is a tool — a tool designed for rendering a service.

But more than that — to be most effective the tool must be designed to perform some special service. The entire development of business is toward specialization. This is true not merely in manufacturing.

In the old days the country merchant, and in recent years the wholesaler, was more a banker than a distributor of goods. It is not ten years since a well known jobber told me that he looked upon a sale of goods as merely the starting of a banking transaction in which he made a higher interest rate than the laws of usury permitted. He did not want his customers to discount their bills. He wanted them to take the full time allowance and permit him to receive the 18 per cent a year that he would not make if his bills were discounted.

Today that is much less common. Banks specialize on the financial end, and jobbers specialize on distribution and warehousing.

In manufacturing, specialization is increasingly common. A few years ago a

furniture manufacturer would have thought himself neglectful of his opportunities, if he failed to make anything from piano cases to kitchen chairs that came under the classification of furniture. Today there are plants that make nothing but chairs.

The reason is plain. In the days of craftsmanship, a cabinet maker was an artisan who was expected to make anything that can be made of wood. When the so called factory system of production started a hundred years or so ago, a certain amount of specialization came with it. The development has been rapid, but the next hundred years will see specialization carried much farther. I firmly believe that in fewer years than that there will hardly be a plant turning out more than a single product.

That is because to operate at the lowest possible cost a plant must be a tool carefully designed, exactly balanced, and minutely adjusted to make only one thing. No compromise plant will be able to compete.

While there may still be a demand from a few people for goods made to order and absolutely unique, such business will be small

and the concerns catering to it will have to expect to remain small. I am writing of the vast number of business men to whom constant growth is as essential a consideration as sure profits. They go together.

In the successful business of to-day and tomorrow balance is essential. Selling will consist not in the table-pounding tactics of a "go-getter," but in making a needed product of high quality at low cost. The possible consumers of the product will be told of it with advertising which will get the message across, at the lowest possible cost. Each bit of copy will be tested and unless it shows beforehand that it will produce a certain amount of business at a satisfactory profit, it will not be used.

The plant will be of exactly the right size to produce what the market will absorb by operating full time the year round. To-day the factories in many industries are too large. They cannot be kept constantly busy. That condition is commonly called "over production," yet I doubt if there is actually such a thing. There is beyond doubt such a thing as under consumption, but that is

because inefficiencies in making and selling keep the price of things so high that some people who want them cannot afford to buy them. Nearly everyone says every day of something, "I wish I could afford it, but I can't." The reason is either that the thing costs too much or because the prospective buyer earns too little.

It is entirely possible to lower costs while still paying higher wages and thereby expand the buying power of the community manyfold. The American Woolen Company has done it, so has Ford and so have many smaller but equally progressive concerns. Although the individual business man may get an apparent and purely temporary advantage when he is able to browbeat his employees into accepting a wage cut, the business community suffers.

It is when better methods enable higher wages to be paid while costs go down that a real contribution is made to business prosperity and stability. A day's work buys more commodities of more kinds now than it ever did before. In a few years it is likely that a day's work will buy as much as a

week's labor does now. And it will buy new things with which to add to the comfort of living that we don't dream of to-day.

I have said that modern methods will increase the stability of business. We are accustomed to think of panics and slumps in business as brought about by something vague and intangible beyond our control which we call "general business conditions." Actually each business man does his little share to make business good or bad. Business sentiment does not affect business conditions; it reflects them. Therefore, I am not impressed with the efficacy of optimistically shouting "business is good," in the endeavor to get business on the up grade, nor do I believe that pessimistic utterances ever brought about a depression.

Depressions come rather as the result of the maladjustment of the many individual concerns which make up the business structure. They are natural punishments for the many business mistakes which creep in when everyone is making a profit. Speculation causes the credit structure to

be stretched too thin. A seemingly insatiable demand for goods leads producers to stress production at any cost. Too many and too large factories are constructed. Little inefficiencies in manufacture are waved aside as picayunish and unworthy of the attention of an important executive.

The entire business world and the individual parts of it are out of balance. It can no longer serve. In fact it forgets that it exists to serve; therefore the time shortly comes when it no longer profits.

When, as will come about before many years, business men generally learn what the leaders now know, that a business profits as it serves, and that to serve best each business must specialize and manufacture and sell at the lowest possible cost, these maladjustments will no longer exist. Year-round employment at high wages will permit everyone to buy what they want continuously. Business will then be good all of the time.

Each one can do something to bring about this end. The process may be a relatively slow one, but it is certain that those who do not adjust themselves and fall in with the trend will be eliminated and their places

taken by those who will. The whole process will be carried on by men who allow guesswork no place in their business.

In that way business risks will be eliminated.

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